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THOMPSON CHAIN OF LAKES

MANAGEMENT PLAN
AND
ENVIRONMENTAL ASSESSMENT

November, 1993

Montana Department of Fish, Wildlife and Parks

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PLAN HIGHLIGHTS
(Preferred Alternative)

The Montana Department of Fish, Wildlife and Parks (FWP) proposes to accept ownership of 3,917.83 acres of property donated to the people of Montana by Champion International Corporation and the Richard King Mellon Foundation, assisted by the conservation Fund to be named Thompson Chain of Lakes (TCL). The Foundation purchased the property under its America Land Conservation Program, from Champion International Corporation, which sold the holdings at a favorable price for conservation purposes.

Management Goal: Thompson Chain will be managed as a fishing access area for traditional dispersed recreation use, with management and development consistent with FWP's fishing access program. The focus will be on protecting the resource and providing public access for the purpose of boating and fishing (i.e., boat ramps, parking and road improvements, vault toilets, signing and fencing). Picnic facilities, camping improvements, hiking and canoe trails, interpretive materials or signing and/or educational centers are generally not part of this program. However, because of the use of TCL for picnicking and camping, these uses will be allowed to continue and facility improvements are not precluded. FWP may adopt special regulations for TCL if necessary to implement management goals. Land classification guidelines and administrative rules pertaining to FWP lands are shown in appendixes C and B, respectively.

Entrance fees are not charged at fishing access sites; fees for overnight camping are allowed if the level of campground development warrants it.

Costs for initial site protection activities are planned to be minimal. The public interest in providing perpetual access on Rainbow, Cad, Topless, Bootjack and Cibid lakes is recognized. The management agency will meet with corporate owners to ascertain the potential for acquisition of easement, purchases and land trades and will report back to the Advisory Council. No private property would be condemned. See Section 87-1-209, MCA in Appendix A.

Rehabilitation, small campsite development and maintenance may be undertaken on a volunteer basis by local or statewide groups. Work will be coordinated through FWP.

Within legal constraints imposed by federal or state statute, dispersed sites or existing roads traditionally used would not be closed unless unacceptable conflicts are documented and not until Montana Environmental Policy Act (MEPA) procedures have been followed. Protection of wildlife, fisheries, vegetation, historic and archeological sites, and water resources will be given priority.

The camping resource is designed to retain the dispersed opportunities for recreation vehicle and hike/boat in users. Campsite protection and rehabilitation will be given priority at Loon Lake, the peninsula between Lower and Middle Thompson, the site at the bridge on Upper Thompson, Horseshoe Lake's main camp and a site near the east end of McGregor. Facilities could include

boat ramps, toilets, fences, road repair, parking, access for the disabled, fire rings and signs. Site specific plans for these sites will be completed and public comment sought. At other locations in TCL, it is recognized that portable or vault toilets may be provided; however, drinking water and garbage service will generally not be available.

The road between Loon and Horseshoe lakes will continue to be a vehicle access road, and the dispersed campsites at Horseshoe will remain unless unacceptable conflicts are documented and not until the MEPA procedures have been followed.

Vehicle access on TCL will be maintained at the current level; some road repairs on heavily impacted roads would be done. Road improvements generally will consist of correction of drainage problems in site specific locations, with the majority of the roads remaining in their relatively unimproved state. FWP would work with Plum Creek to resolve congestion and parking concerns along the ACM Road. Boat access at the lakes would be improved at designated sites.

Some social conflicts presently exist at TCL. Part of operations planning must include a plan for enforcement of regulations.

Boating activities also provide an opportunity for social conflict at TCL. FWP has limited statutory authority to manage these activities. Current statute (see Appendix C) allows motor boat restrictions only for environmental damage, private property damage, or public health and safety reasons. Public sentiment appears to support having a full range of boating opportunity on McGregor, Upper Thompson, Middle Thompson, Lower Thompson and Crystal lakes. No-wake limits appear to be supported on Loon, Lavon, Bootjack, Rainbow, Leon and smaller pothole lakes. Public sentiment is unclear regarding boating restrictions on Horseshoe Lake. Any restrictions not covered by existing statute would require public involvement and regulatory action. Voluntary no wake seasonal boat closures within 150 yards of active Loon nests would be implemented.

The original Chain of Lakes Advisory Council will end upon completion of this plan. A new TCL Oversight Committee will be created to serve as the conduit between FWP and the public for exchanging information regarding specific development plans and management strategies. This committee would meet periodically (at least annually) and would provide advice focusing preparation and presentation of FWP's annual work plans to the public. A cooperative management system to take advantage of and utilize equipment and expertise between the various agencies that have managing responsibilities in the area is encouraged. The Oversight Committee and FWP would explore creative management alternatives, including the use of volunteers and Adopt-a-Site strategies by service clubs and other groups, as well as work with FWP to monitor the effectiveness of the management plan. The plan will be reviewed on a five year cycle with updates every ten years.

Policies, Strategies, and Planning Issues: Since TCL has been used for recreation since the late 1800s its management for that purpose is in keeping with its recent past.

The principle reason TCL has been an attractive recreation area is that it provides a mix of developed and dispersed recreation opportunities. The lake water is generally clear, cold, deep and popular with anglers. Wildlife is abundant.

If Thompson Chain of Lakes is to retain its attraction for recreation, the quality of the environment that brings people here should be maintained and enhanced along with recreation opportunities.

Because fiscal constraints will continue to be a concern, the plan developed for TCL must emphasize capital improvements and operations methods which minimize staffing and maintenance needs and costs. As recreational priorities and human use patterns change, elements of this plan may be modified. This plan is structured such that modifications can be implemented if changing conditions require. When, through continued monitoring, a situation is documented to be causing environmental or social change, an assessment of that change will be done. If the change is not in accordance with the purpose of this plan, FWP will "trigger" steps to eliminate or mitigate for the change and restore the status quo. A public participation and analysis process will be utilized by using the MEPA guidelines. A copy of this act is in Appendix C.

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Figure 1. Horseshoe Lake

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INTRODUCTION

BACKGROUND

On June 12, 1990, Champion International Corporation, in conjunction with the Richard King Mellon Foundation, assisted by the Conservation Fund (a Virginia-based conservation organization) donated 3,917.83 acres of lakeshore and adjacent land to the people of Montana (see Figure 2). Called the Thompson Chain of Lakes (TCL), the lands include undeveloped lakeshore around parts of McGregor, Little McGregor, Lower, Middle, and Upper Thompson, Crystal, Horseshoe, Loon and other lakes. The land was valued at $4 million, with the Richard King Mellon Foundation, assisted by the Conservation Fund, purchasing the property under its America Land Conservation Program. Champion International Corporation sold the holdings at a favorable price for conservation purposes. Title to the property was transferred initially to the Mellon Foundation, but with the development of an acceptable Management Plan, it will rest permanently with the State of Montana Department of Fish, Wildlife and Parks (FWP). The 3,917.83 acres stretches for 20 miles along U. S. Highway 2 between Kalispell and Libby, including shoreline along 21 lakes. These lakes include eight large lakes with depths to 160 feet and 6 small ponds that go dry for a portion of some summers. The land ownership in the area is interspersed with private holdings, Plum Creek Timber lands and U. S. Forest Service property. The area includes habitat of some threatened, endangered and sensitive species. Thompson Chain of Lakes also lies along a recreation corridor that receives increasingly heavy use as Flathead Valley population and regional tourist industry grow.

The Conservation Fund leased this property to the Montana Department of Fish, Wildlife and Parks for two years beginning in December, 1990. The purpose of the lease was to enable FWP to develop a management plan for the area. The lease was subject to those easements and rights of way in common with Champion International Corporation (recently purchased by Plum Creek Timber Company) and provided for continuation of past Champion road maintenance programs. A copy of the lease is included in Appendix C.

Initial Administration of the Area:

In 1991 FWP designated the Parks Division to administer this site as a unit of the Park system. The original thought was that the potential of this beautiful area for recreation would be beneficial to the struggling Park system if reasonable funding could be obtained.

Initial Funding:

The Parks Division initially resisted public pressure to make site improvements due to its funding situation and attempted to "mothball" the site until funds were available. The site's conversion to a public property and its popularity, especially with anglers, made the "mothballing" approach difficult. Private interests, in particular Flathead Wildlife, based in Kalispell, offered to raise private funds if the state matched the funds. The Parks Division offered $10,000 of Long Range Planning dollars (part of the $150,000 received in the 1991 legislative session via Rep. Francis Bardanouve which required a 1:1 private dollar match) and the U.S. Forest Service, Kootenai National Forest also offered $10,000.

LEGEND

Thompson Chain of Lakes Donation

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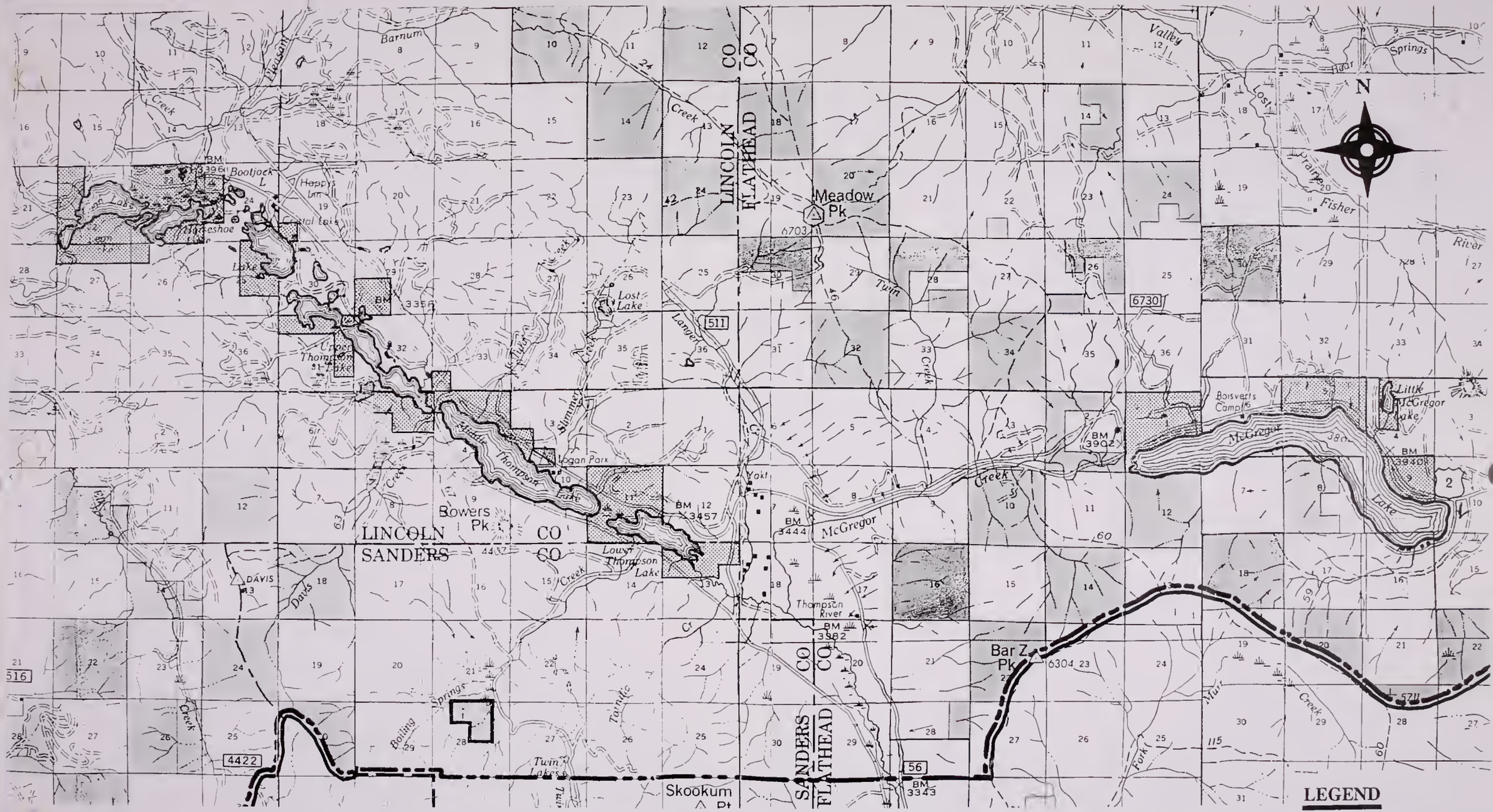

Figure 2. Thompson Chain of Lakes

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Private citizens raised $10,000 to match the state funds and the U. S. Forest Service also matched with $10,000 for a total of $30,000 to initiate a planning process.

Initial Planning/Scoping Efforts: The $30,000 raised were inadequate to do a thorough environmental assessment and planning job, but public interest drove the process forward. The process generated some controversy as misperceptions developed of what FWP intentions were, especially for park development, and some former site users realized unrestrained use could not continue without some controls to protect the environment. However, the exercise did do a good job scoping the issues and identifying affected interests.

Public Sentiment: In general, public comment reflected a desire to leave the site somewhat primitive, much the same as its existing condition. Also expressed was an aversion to calling the site a "park" and charging fees for entering. The primary use desired remained fishing, boating and related activities. Many were concerned that too much development and site promotion would negatively impact the site as they knew it and were concerned about impacts to private property.

A Shift in Strategy: As a result of the public comment and the continued lack of State Parks dollars to fund needed improvement (or even the necessary planning), the Department decided to propose a different management and administrative strategy.

The public comment indicates that for now site development would be more appropriate in the Fishing Access Site program under the Fisheries Division. Dollars are available for planning, environmental assessment, site protection and minimal improvement using a combination of fishing license and federal motorboat dollars (Dingell Johnson funds). Also, the general level of development supported by the public is more in tune with what the FAS program typically provides compared to what people expect in the State Parks program. This entails site protection and improvements to allow better access for boating and fishing (i.e. boat ramp, parking area and road improvements graveled except for disabled access and vault toilets, etc.).

Logan State Park is in the middle of this site and would continue as a State Park. The Wildlife Division may also have a role in managing some of the non-aquatic habitat.

If State Parks becomes more financially healthy and if the public supports it, they could have more involvement in the future, but for now the area would be left fairly natural and administered as a Fishing Access Site.

1993 Legislative Proposal: As a result of the above shift in strategy the Thompson Chain of Lakes site has been taken out of the Parks FY 94/95 capital budget request and added to the Fisheries Division capital budget request as explained in the attached proposed amendment presented on January 12, 1993, to the Long Range Planning Subcommittee that hears the FWP budget request. Pending legislative approval the Thompson Chain of Lakes planning process will remain in draft form and the changes in strategy will be discussed with the public. Work will continue in the new direction in July, 1993.

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FWP has encouraged cooperative development and planning for this property, with participation from non-profit groups, local landowners, local and federal government, and private corporate ownership. FWP will also encourage cooperative management of this property with participation from local landowners, the U.S. Forest Service, and private corporate owners.

PURPOSE AND NEED

This Management Plan and Environmental Assessment is centered around the existing resources, current uses, and potential uses for the 3,917.83 acres proposed for donation to the State of Montana, plus an existing State Park on Middle Thompson Lake, and three small FWP tracts, located the peninsula between Middle and Lower Thompson Lakes, Upper Thompson Lake and on Crystal Lake. It also includes discussion of Forest Service land and recreational facilities on McGregor Lake. This plan necessarily discusses the Thompson Chain of Lakes planning area since it is one environmental unit; however, land management recommendations are for only the TCL Conservation Fund and associated lakes, and the other FWP property in this planning area. The plan will be the basis for future development for the FWP property with coordinated management objectives for federal, state, and local agencies. Because it is anticipated that this plan will be implemented under severely constrained appropriations, the preferred alternative recommends a minimum development that will provide essential conservation, maintenance and development amenable to this attractive, accessible, long-used recreational resource.

The Thompson Chain of Lakes area is and has been a favorite recreational area of Montanans with a wide spectrum of users since the turn of the century. The writing of a management plan is a condition of the donation of the land to the State of Montana. The purpose of this plan is to help perpetuate and improve the quality of recreational experience people have enjoyed here in the past, by balancing the need for recreation with the need for water quality and wildlife habitat.

In several of the TCL lakes, most notably Crystal, Middle Thompson, and Upper Thompson, according to consultant's 1992 data, and other data cited in this report, monitoring information indicates a concern that land use activities, including recreational use, may be adversely affecting water quality in the area.

Local users, landowners, and land management agencies share the concern that unrestricted increased use of the area will compound the problems of sanitation, an increased threat of forest fire, and a lessening of the overall recreational and scenic values that attracted them and generations of Montanans before them.

Champion Timber Corporation's donation of 3,917.83 acres of land around the lakes to the Conservation Fund offered local citizens the opportunity to protect the resource. They formed a Citizen's Advisory Council, raised $10,000 in matching funds to provide an Draft

Environmental Assessment and Resource Management Plan, and worked tirelessly for two years to gather data that would help the consultants prepare the report and ensure its accuracy.

Public Involvement in the Planning Process: Because the Thompson Chain of Lakes area is a mix of different ownerships, public involvement in the planning process is crucial to the success of any management plan (see process charts in Appendix D). The ownerships interspersed through the area include: Extensive corporate holdings of Champion International and Plum Creek Timber Company, Kootenai National Forest, ranches, small businesses, small private land holdings, and the 3,917.83 acres of Conservation Fund Lands.

Many individuals and groups are interested in land use management decisions for TCL. Recreational user groups include Flathead Wildlife Incorporated, the Libby Rod and Gun Club, The Loon Society, Communities for a Great Northwest, and many other outdoor clubs. A more complete list of interested groups is in Appendix E. The individuals who have a direct interest in the Thompson Chain of Lakes include: Hunters, anglers, recreational boaters, hikers, homeowners, corporate land owners, and campers. Although most of the individual users of TCL are residents of Lincoln or Flathead Counties, many multi-day, multi-visit recreational users are out of state residents. In 1988, 47.3 percent of the guests at Logan State Park were nonresident visitors (from visitation surveys done by the Department of Fish, Wildlife and Parks, summer of 1988).

Advisory Council: In December of 1990, the first announcement of the Champion International and Conservation Fund lease/donation was made in western Montana newspapers. With advice and assistance from the Kootenai National Forest, co-ordination of public involvement and environmental assessment proceeded under auspices of FWP. In January of 1991, a citizen's advisory council was implemented by FWP. This Council represented more than two dozen land ownership, economic, and recreational interests in the Thompson Chain of Lakes area (see Appendix E).

The organizational meeting of the advisory council included 48 people, representing local business, grazing interests, fire departments, home owners, campers, general recreation users of the area, fishermen and outdoor clubs from both Flathead and Lincoln Counties. Major landowners represented on the Council included Champion International, the U.S. Forest Service, Plum Creek Timber Company, and FWP.

They elected Warren Illi as chairman and began monthly meetings in February, 1991. The Advisory Council raised $10,000 to match funding from the USFS and FWP for development of the management plan and the required Environmental Assessment (EA).

Scoping Process: In scoping, or determining public opinion and the desired scope of the project, the Advisory Council working group made contact with 66 newspapers, radio broadcasters, and sportsman and service clubs in the area. An Advisory Council meeting was held to obtain a broad spectrum of viewpoints on how the property should be managed in the foreseeable future, and produced a questionnaire to determine public opinion. Nearly 500

questionnaires (13 percent of those distributed) were returned. A summary of the results is in Appendix E.

The Advisory Council considered the survey results, and the results obtained from public exposure to the various drafts of this Plan and EA. To the extent that a significant, consistent, and reasonable public consensus on various issues could be identified, an Advisory Council Working Group incorporated these views.

The Advisory Council considered the results of these public scoping efforts and formulated preliminary land use and management objectives for TCL. From these management opportunities, objectives, and constraints, various alternatives for development were defined.

ALTERNATIVES

The four alternatives are: I) No action; II) a plan of phased development that balances recreational needs with wildlife, timber and grazing concerns; III) a plan of maximum development as described below; and IV) a plan of limited development in keeping with current primitive recreational use. The costs of the alternatives may change due to changes in the timing of phase implementation, costs of recommended land acquisition, changes in timber and labor values and a great many other variables.

SUMMARY OF ALTERNATIVES:

Some items are common to alternatives II, III and IV. These actions mainly consist of monitoring current conditions, and collecting appropriate data so management can make informed decisions in the future. These items are:

The Advisory Council, having finished its work, has been disbanded. An Oversight Committee, somewhat smaller in size, will be organized to assist with management options.

The management agency will meet with corporate owners to ascertain the potential for the acquisition of easements, purchases, and land trades, and will report back to the Oversight Committee.

A grazing plan will be developed in all alternatives before decisions are made regarding the type and number of grazing leases on TCL. This grazing plan will incorporate vegetative studies with impacts to recreation, wildlife and weeds in order to derive an accurate assessment of current and preferred conditions.

Water quality monitoring is proposed to be continued for a period substantial enough to define current conditions, establish base line data, and determine point source impacts. A noxious weed control program would be implemented in conjunction with the phased reclamation/restoration projects.

Current use patterns would be monitored. As impacts were seen to water quality or to wildlife (specifically bald eagles), management plans will be written to address these concerns and management implemented following a public involvement process. Significant and specific site improvement, development and restoration projects would have detailed site analysis and design phases. These analyses would include archeological surveys, surveys of wildlife and may include surveys of sensitive plant species.

A waiver from the Montana Department of Health and Environmental Sciences would be necessary to allow camping without drinking water being provided. Garbage would be handled via a pack-in/pack-out policy. Again this would have to be agreed upon by the Health Department. Pertinent Administrative Rules are listed in Appendix B. There will be no pioneering of new camping sites or picnic areas.

Voluntary closures for loon nesting will be a feature of all alternatives. These closures consist of buoys placed 150 yards from active loon nests for the nesting period, May 1 to July 3 requesting people to stay out of these nesting zones.

The limited, but sustained-yield, timber harvest discussed under "vegetation management" and fees from grazing could contribute annual income. This income would be deposited in the FWP Land Trust. Vegetative management funding would be requested from that trust. Other financial strategies, beyond the scope of this report, may be appropriate for sustained funding of TCL.

None of these alternatives recommends the condemnation of any private property.

Alternative I

This is the No Action alternative. FWP would not accept TCL under state management with this alternative. Logan State Park would continue to operate, and the State would retain ownership, management and public use of the "Centennial Acre" on Upper Thompson, the peninsula between Middle and Lower Thompson and the small access site on Crystal Lake. The recreation site operated by the U.S. Forest Service on McGregor Lake would still be available for public use. The dispensation of the TCL property would be at the discretion of the Conservation Fund. They have stated that if the State did not accept ownership of this property, they would attempt to find some other public agency or nonprofit group that would accept the property. They further stated that the Conservation Fund does not intend to hold title to the land; therefore, if no entity was found that would accept title to the property, they would sell it. The qualities that makes these lakes supremely attractive would probably decline under the "No Action" alternative. The existing water quality of the Chain-of-Lakes area, including McGregor Lake, would be officially protected by existing local, state and federal laws. If no agency or group accepted ownership, there is a likelihood of development which may impact the quality of traditional recreational use. If the present uncontrolled use continued, adverse human impacts would arise, degrade water, scenic and recreational values. Declining water quality in the lakes will affect water quality downstream in the Thompson and Fisher rivers and will affect far more Montana citizens than those living at, and using, Thompson Chain of Lakes.

Ecological and biological values will suffer in the "no action" alternative. Adequate protection may not be guaranteed for existing populations of bald eagle, loons, or other endangered, threatened, or sensitive plants and animals dependent upon this habitat.

As water quality in the lakes and downstream in the Thompson and Fisher rivers declines, wildlife and botanical diversity and the quality of recreational experiences may decline.

Alternative II

Under this alternative (see figures 3 and 4), FWP would accept ownership of 3,919.83 acres of Conservation Fund property and manage it as part of the State Parks system under a "natural park" classification. This land would be designated as Chain of Lakes State Park. A five phase improvement program recommended in this plan would be implemented by the State of Montana as conditions allow, from immediately to twenty or more years. Costs for phases one and two would be minimal except for the approval of recommendations of land adjustments, which may be by lease, long-term co-operative agreement, conservation easement, donation, trade or purchase.

This alternative would rehabilitate, relocate and add camp sites. It would propose the rehabilitation of approximately 28 existing recreation sites and the addition of approximately 100 new camp sites. This improvement work would be conducted over a 20-year period, with the first phases to be low cost relocation and rehabilitation as well as upgrading of the existing Logan State Park. Rehabilitation and small-site development may be undertaken on a volunteer basis by local or statewide groups at minimal cost to the State of Montana.

Under this alternative, four existing recreation sites would be converted to hike-in/boat-in sites. This alternative proposes the creation of a 10-mile long canoe trail from Loon Lake to Lower Thompson Lake. This canoe trail would have seven portages to ensure access from one lake to another. Also, under this alternative approximately eight miles of mountain bike/hiking trail would be created. Both the canoe trail and the mountain bike/hiking trail are predicated on the assumption that necessary easements and rights-of-way can be obtained for portages and trails. The canoe trail would not only make the new Chain of Lakes State Park unique in Montana but also unique in the Pacific Northwest. Also, under this alternative, approximately four trailheads, eight angler-access sites, and six boat/canoe-access sites would be added and adequate protection of existing populations of bald eagles, loons and other sensitive animals and plants on TCL lands would be provided.

The camping resource would be designed to retain the dispersed quality for vehicle and hike-/boat-in users. To provide for increasing user numbers and cost effective and appropriate sanitation facilities, some larger camping facility areas would be developed, and a portion of the existing individual use sites with significant impacts would be closed. These larger areas would be designed to retain the dispersed character. Though there would be improved sanitation facilities at all locations, water and garbage disposal would only be available at the large camping /recreation sites. Camping sites would be hardened by providing graveled vehicle areas, vehicle barriers and corrected drainage on existing access roads. At most sites, additional amenities would be limited to fire rings and signs.

Hiking/walking/nordic skiing trails would dominate the use on the southern side of the Loon and Lower Thompson lakes, with numerous vehicle access points allowing for a variety of users and experiences. User facilities would be developed at the Forest Service campground on McGregor

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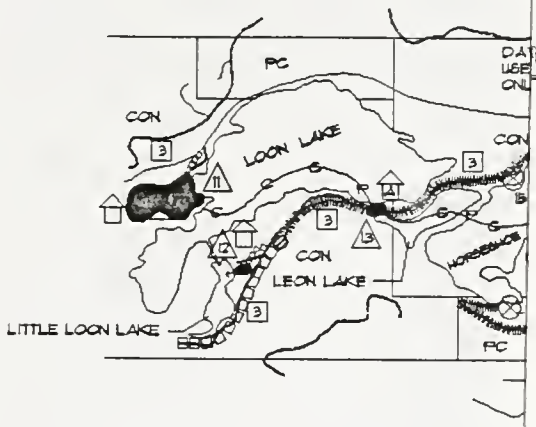

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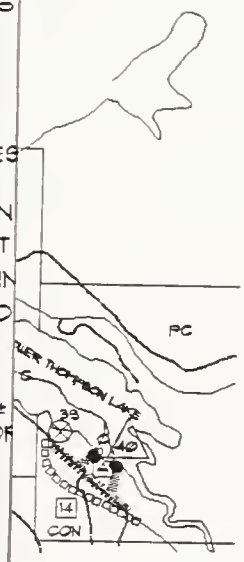
LEGEND

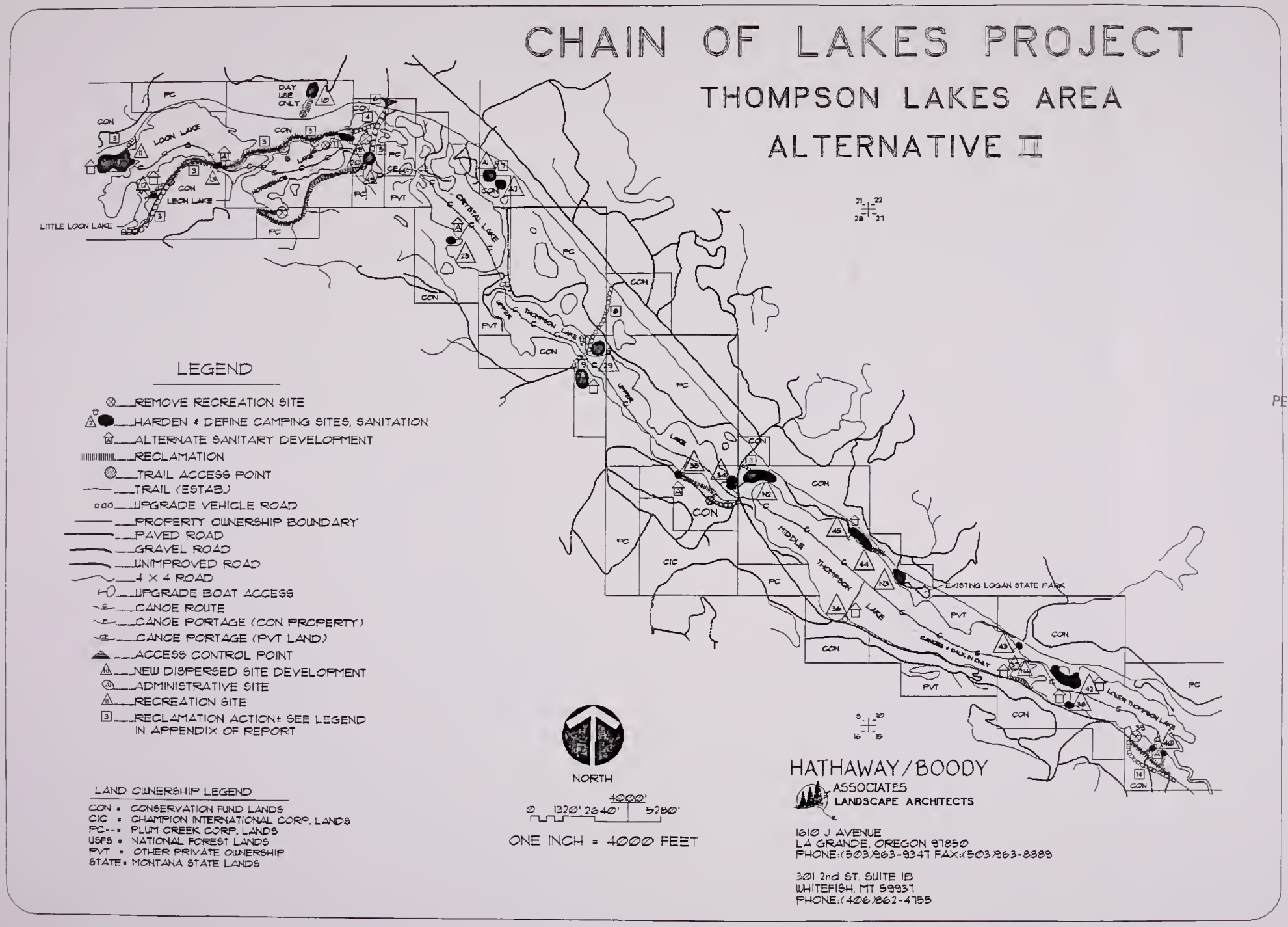
- REMOVE RECREATION S
- HARDEN & DEFINE CAMP
- ALTERNATE SANITARY D
- RECLAMATION
- TRAIL ACCESS POINT
- TRAIL (ESTAB.)
- UPGRADE VEHICLE ROA
- PROPERTY OWNERSHIP
- PAVED ROAD
- GRAVEL ROAD
- UNIMPROVED ROAD
- 4 X 4 ROAD
- UPGRADE BOAT ACCES
- CANOE ROUTE
- CANOE PORTAGE (CON
- CANOE PORTAGE (PVT
- ACCESS CONTROL POIN
- NEW DISPERSED SITE D
- ADMINISTRATIVE SITE
- RECREATION SITE
- RECLAMATION ACTION± IN APPENDIX OF REPOR



LAND OWNERSHIP LEGEND

CON = CONSERVATION FUND LANDS
CIC = CHAMPION INTERNATIONAL C
PC-- = PLUM CREEK CORP. LANDS
USFS = NATIONAL FOREST LANDS
PVT = OTHER PRIVATE OWNERSHIP
STATE = MONTANA STATE LANDS

Figure 3. Thompson Lakes Area Alternative II



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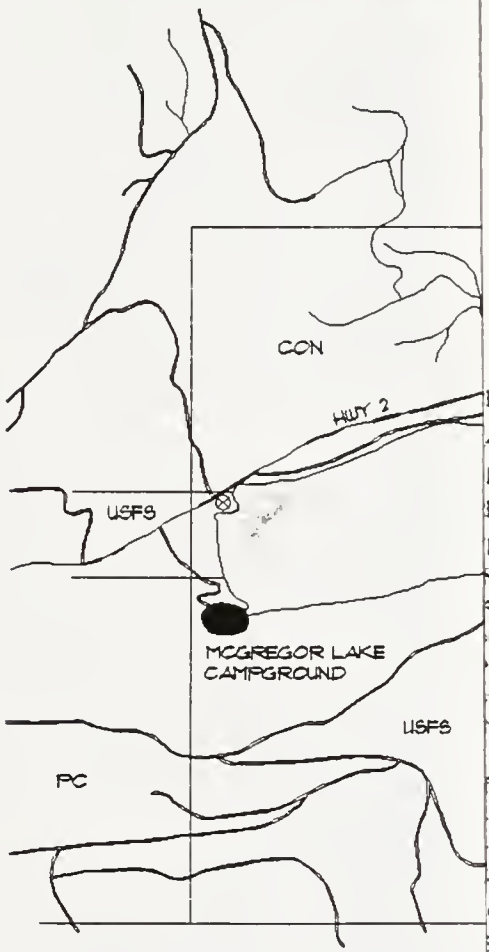

LEGEND

EMOVE RECREATION SITE
ARDEN & DEFINE CAMPING SITES, SANITATION
LTERNATE SANITARY DEVELOPMENT
ECLAMATION
RAIL ACCESS POINT
RAIL (ESTAB.)
PGRADE VEHICLE ROAD
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AVED ROAD
RAVEL ROAD
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ECLAMATION ACTION: SEE LEGEND
APPENDIX OF REPORT

NORTH

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HATHAWAY/BOODY
ASSOCIATES
LANDSCAPE ARCHITECTS

1610 J AVENUE
LA GRANDE, OREGON 97850
PHONE:(503)963-8347 FAX:(503)963-8889

301 2nd ST. SUITE 1B
WHITEFISH, MT 59937
PHONE:(406)862-4755

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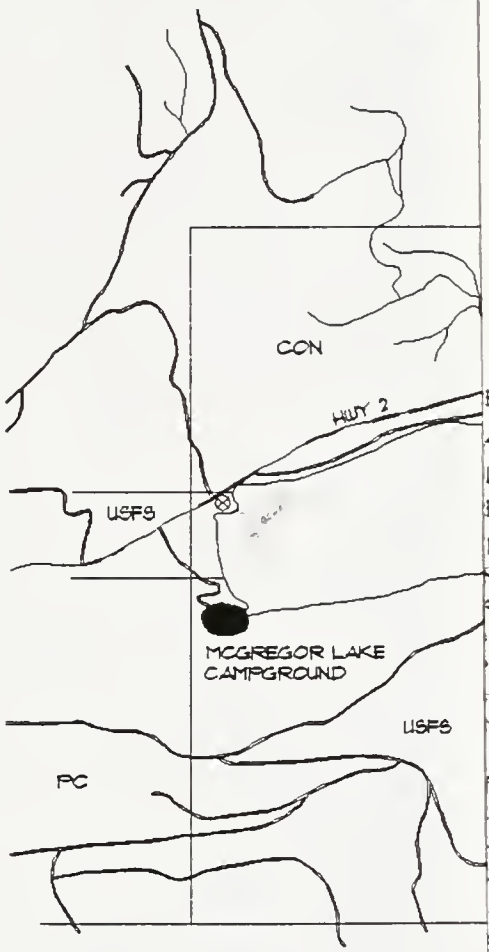

LEGEND

EMOVE RECREATION SITE
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LTERNATE SANITARY DEVELOPMENT
ECLAMATION
RAIL ACCESS POINT
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PHONE:(503)963-8347 FAX:(503)963-8889

301 2nd ST. SUITE 1B
WHITEFISH, MT 59937
PHONE:(406)862-4755

Figure 4. McGregor Lake Alternative II

CHAIN OF LAKES PROJECT

McGREGOR LAKE – ALTERNATIVE II

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LEGEND

- REMOVE RECREATION SITE
- HARDEN & DEFINE CAMPING SITES, SANITATION
- ALTERNATE SANITARY DEVELOPMENT
- RECLAMATION
- TRAIL ACCESS POINT
- TRAIL (ESTAB.)
- UPGRADE VEHICLE ROAD
- PROPERTY OWNERSHIP BOUNDARY
- PAVED ROAD
- GRAVEL ROAD
- UNIMPROVED ROAD
- 4 X 4 ROAD
- UPGRADE BOAT ACCESS
- CANOE ROUTE
- CANOE PORTAGE (CON PROPERTY)
- CANOE PORTAGE (PVT LAND)
- ACCESS CONTROL POINT
- NEW DISPERSED SITE DEVELOPMENT
- ADMINISTRATIVE SITE
- RECREATION SITE
- RECLAMATION ACTION: SEE LEGEND IN APPENDIX OF REPORT

NORTH

1320' 3000' 1 MILE 5280'

ONE INCH = 3000 FEET

LAND OWNERSHIP LEGEND

CON = CONSERVATION FUND LANDS
CIC = CHAMPION INTERNATIONAL CORP. LANDS
PC = PLUM CREEK CORP. LANDS
USFS = NATIONAL FOREST LANDS
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Lake, at Logan State Park (which would be incorporated in the new state park and designated "Logan Memorial Campground") and at all new campgrounds and some boat-launch facilities.

Day-use areas and interpretive facilities should be strategically sited at access points, trailheads and easily accessible areas. On the southern side of McGregor Lake, trails would be developed for hiking/equestrian and snowmobile use.

A canoe trail would be developed from the west end of Loon Lake to the east end of Lower Thompson Lake. Trail development would be preceded by easement acquisition. Vehicle access would be minimally upgraded (mostly correcting drainage problems) to all lakes greater than 10 acres in size. Boat access at these lakes would also be improved at designated day-use sites. Some vehicle access routes to lakes would be reclaimed and a hike-and-carry-in policy implemented.

Road improvements generally would consist of correction of drainage problems in site specific locations. The majority of the roads would remain in a relatively unimproved state. Significant surface upgrading (consisting of regrading, base course, and a crush graveled surface) would occur in later phases and only to the larger camping and recreation sites, the administrative site and the main education/interpretive site.

Some boating limitations would be recommended on Loon, Horseshoe, Lavon, Bootjack, Rainbow, Leon and the small lakes under 10 acres if regulatory action was pursued. The limits will be wake and voluntary seasonal use restrictions within 150 yards of loon nests. Larger lakes, McGregor, the Crystal and the Thompsons, will have no boating restrictions except voluntary seasonal restrictions within 150 yards of active loon nests.

Several strategies could be used to make this area self-sustaining from the standpoint of operation and maintenance costs. A fee system for camping could be initiated at dispersed sites. Although grazing would be phased out in areas close to lakes, in riparian zones, where closing tree canopy will limit forage, and where humans and cattle will be in conflict, grazing could continue in appropriate locations as the park is phased-in. Other financial strategies, beyond the scope of this report, may be appropriate to sustain funding of Chain of Lakes State Park.

Phases 1-2 would be essentially for protecting the existing resource base (human/natural), building team consensus toward cooperative land management/acquisition, improving interpretive areas and defining access. The only major camping development in these phases would be an addition to Logan Campground when public use requires this expansion. This would take advantage of existing water and sanitation facilities. Phases 3-5 would provide for additional development of camping and recreation sites. This would be responsive to increased use and would offer further improvements to protect the resource base. Road closures would limit vehicles access to the south side of Loon Lake, all of Leon Lake and Horseshoe Lake except for the east end.

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Some alterations in existing use patterns would be implemented to enhance the wildlife/human experience values. These would specifically target critical habitat areas.

Alternative III

In this alternative (see figures 5 and 6) the FWP would accept ownership of 3,917.83 acres as Chain of Lakes State Park but manage it under a "recreation park" classification. This alternative would emphasizes vehicle-oriented camping. It proposes the rehabilitation of approximately 35 of the existing recreation sites on TCL and the addition of approximately 200 new camping units. This improvement work would be conducted over a 20-year period. Under this alternative, all except three existing dispersed recreation sites would be vehicle accessible. Also under this alternative only three of the existing 50 plus recreation sites would be converted to hike-in sites. This alternative also proposes the creation of a 10-mile long canoe trail from Loon Lake to Lower Thompson Lake. The trail would have seven portages to ensure access from one lake to another; again, this trail would not only make TCL unique in Montana but also unique in the Pacific Northwest. The canoe trail is predicated on the assumption that necessary easements and rights-of-ways can be obtained for portages. Also, under this alternative, approximately four trailheads, eight fishing access sites, and six boat/canoe access sites would be added. Under this alternative, no mountain bike and only a few miles of hiking trails would be created. It is assumed that the existing water quality of the TCL area would be protected under existing local, state and federal laws.

Alternative IV

This alternative appears to best satisfy public desires as expressed during the public scoping process. Under this alternative, FWP would accept ownership of 3,917.83 acres of property donated Mellon Foundation property to be named Thompson Chain of Lakes (TCL).

Management Goal: Thompson Chain will be managed as a fishing access area for traditional dispersed recreation use, with management and development consistent with FWP's fishing access program. The focus will be on protecting the resource and providing public access for the purpose of boating and fishing (i.e., boat ramps, parking and road improvements, vault toilets, signing and fencing). Picnic facilities, camping improvements, hiking and canoe trails, interpretive materials or signing and/or educational centers are generally not part of this program. However, because of the use of TCL for picnicking and camping, these uses will be allowed to continue and facility improvements not precluded. FWP may adopt special regulations for TCL if necessary to implement the management goals. Land classification guidelines and administrative rules pertaining to FWP lands are shown in appendixes C and B, respectively.

Entrance fees are not charged at fishing access sites; fees for overnight camping are allowed if the level of campground development warrants it.

Costs for initial site protection activities are planned to be minimal. The public interest in providing perpetual access on Rainbow, Cad, Topless, Bootjack and Cibid lakes is recognized. The management agency will meet with corporate owners to ascertain the potential for acquisition of easement, purchases and land trades and will report back to the Oversight Committee. No private property would be condemned. See Section 87-1-209(2) MCA in Appendix A.

Rehabilitation and small campsite development may be undertaken on a volunteer basis by local or statewide groups. Work will be coordinated through FWP.

Within legal constraints imposed by federal or state statute, dispersed sites or existing roads traditionally used would not be closed unless unacceptable conflicts are documented, and not until Montana Environmental Policy Act (MEPA) procedures have been followed. Protection of wildlife, fisheries, vegetation, historic and archeological sites, and water resources will be given priority.

The camping resource is designed to retain the dispersed opportunities for recreation vehicle and hike-/boat-in users. Campsite protection and rehabilitation will be given priority at Loon Lake, the peninsula between Lower and Middle Thompson, the site at the bridge on Upper Thompson, Horseshoe Lake's main camp, and a site on the east end of McGregor. Facilities could include boat ramps, toilets, fences, road repair, parking, fire rings and signs. Site specific plans for these sites will be completed and public comment sought. At other locations in TCL, it is recognized that portable or vault toilets may be provided; however, drinking water and garbage service will not be available. Facilities for handicapped citizens will be considered.

The road between Loon and Horseshoe lakes will continue to be a vehicle access road, and the dispersed campsites at Horseshoe will remain.

Vehicle access on TCL will be maintained at the current level; some road repairs on heavily impacted roads would be done. Road improvements generally will consist of correction of drainage problems in site specific locations, with the majority of the roads remaining in their relatively unimproved state. FWP would work with Plum Creek to resolve congestion and parking concerns. Boat access at the lakes would be improved at designated sites.

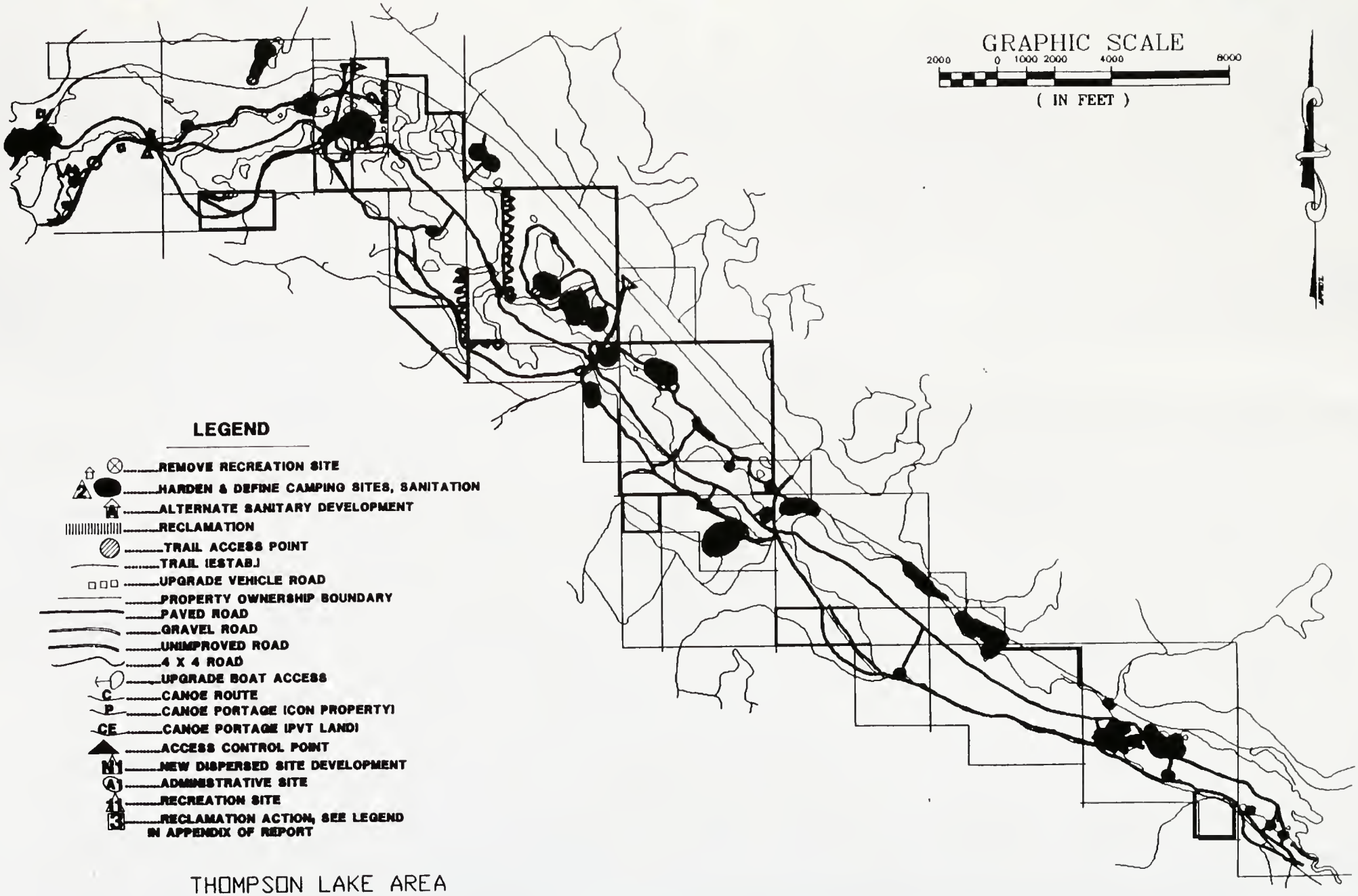
Some social conflicts presently exist at TCL. Part of operations planning must include a plan for enforcement of regulations.

Boating activities also provide an opportunity for social conflict at TCL. FWP has limited statutory authority to manage these activities. Current statute (see Appendix C) allows motor boat restrictions only for environmental damage, private property damage, or public health and safety reasons. Public sentiment appears to support having a full range of boating opportunity on McGregor, Upper Thompson, Middle Thompson, Lower Thompson and Crystal lakes. No-wake limits appear to be supported on Loon, Lavon, Bootjack, Rainbow, Leon and smaller pothole lakes. Public sentiment is unclear regarding boating restrictions on Horseshoe Lake.

Any restrictions not covered by existing statute would require public involvement and regulatory action. Voluntary no wake seasonal boat closures within 150 yards of active loon nests would be implemented.

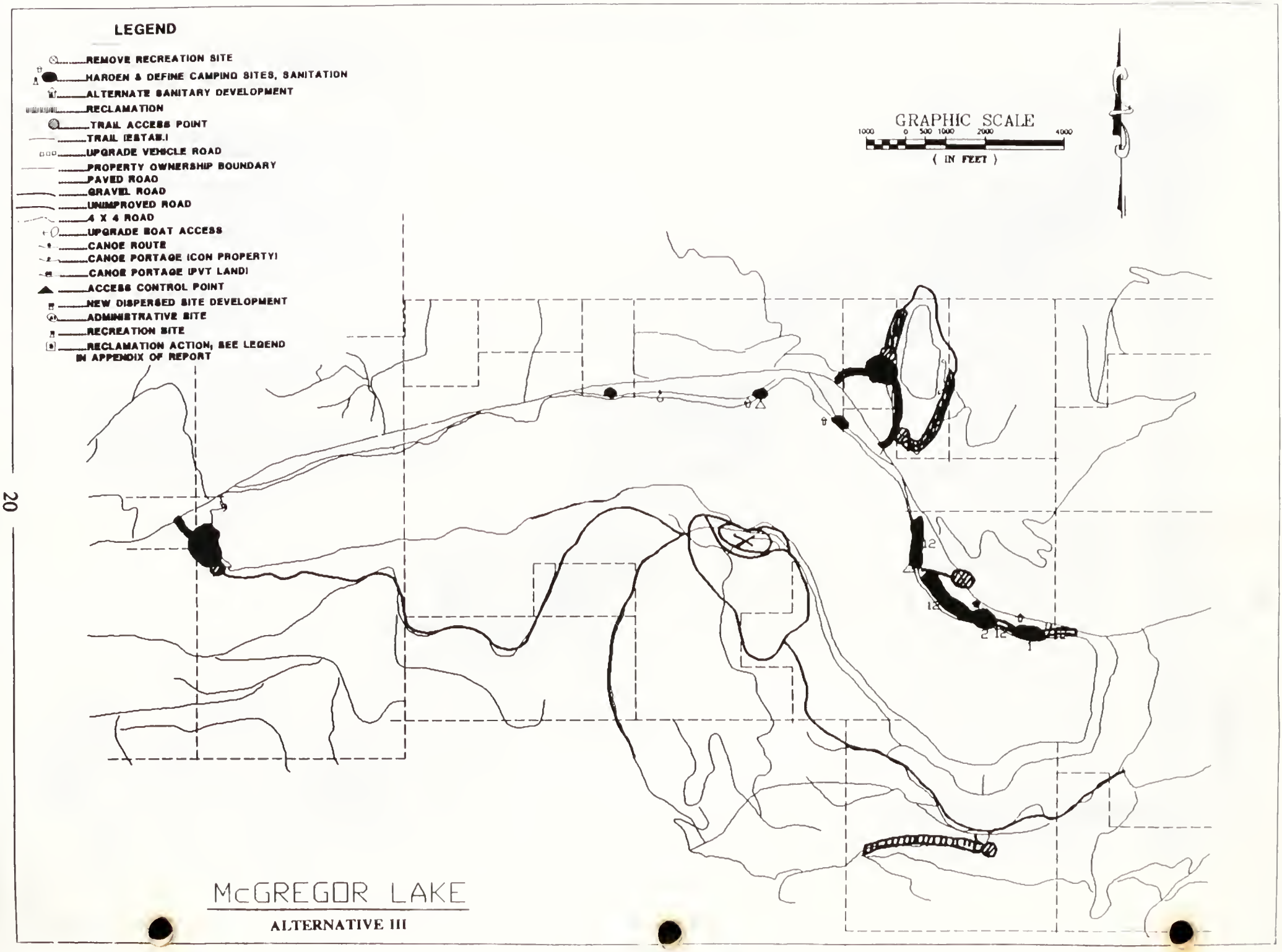
The original Chain of Lakes Advisory Council was disbanded upon completion of this plan. A new TCL Oversight Committee will be created to serve as the conduit between FWP and the public for exchanging information regarding specific development plans and management strategies. This committee would meet periodically (at least annually), and would provide advice focusing on preparation and presentation of FWPs annual work plans to the public. A cooperative management system to take advantage of and utilize equipment and expertise between the various agencies that have managing responsibilities in the area is encouraged. The Oversight Committee and FWP would explore creative management alternatives, including the use of volunteers and Adopt-a-Site strategies by service clubs and other groups.

Figure 5.



THOMPSON LAKE AREA

ALTERNATIVE III


LEGEND
REMOVE RECREATION SITE
HARDEN & DEFINE CAMPING SITES, SANITATION
ALTERNATE SANITARY DEVELOPMENT
RECLAMATION
TRAIL ACCESS POINT
TRAIL (ESTAB.)
UPGRADE VEHICLE ROAD
PROPERTY OWNERSHIP BOUNDARY
PAVED ROAD
GRAVEL ROAD
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4 X 4 ROAD
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CANOE ROUTE
CANOE PORTAGE (CON PROPERTY)
CANOE PORTAGE (PVT LAND)
ACCESS CONTROL POINT
NEW DISPERSED SITE DEVELOPMENT
ADMINISTRATIVE SITE
RECREATION SITE
RECLAMATION ACTION, SEE LEGEND IN APPENDIX OF REPORT
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McGREGOR LAKE
ALTERNATIVE III

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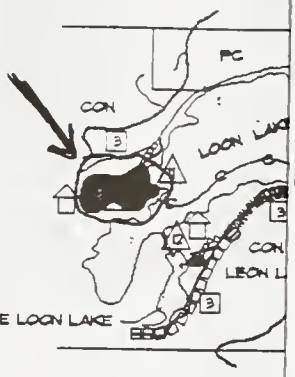

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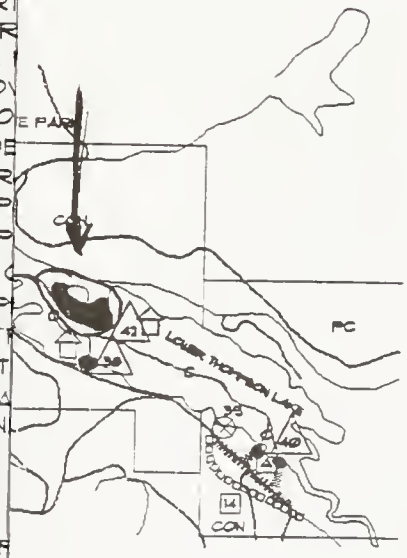

LAND OWNERSHIP

CON = CONSERVAT

CIC = CHAMPION

PC--= PLUM CREEK

USFS = NATIONAL F

PVT = OTHER PRIV

STATE = MONTANA S

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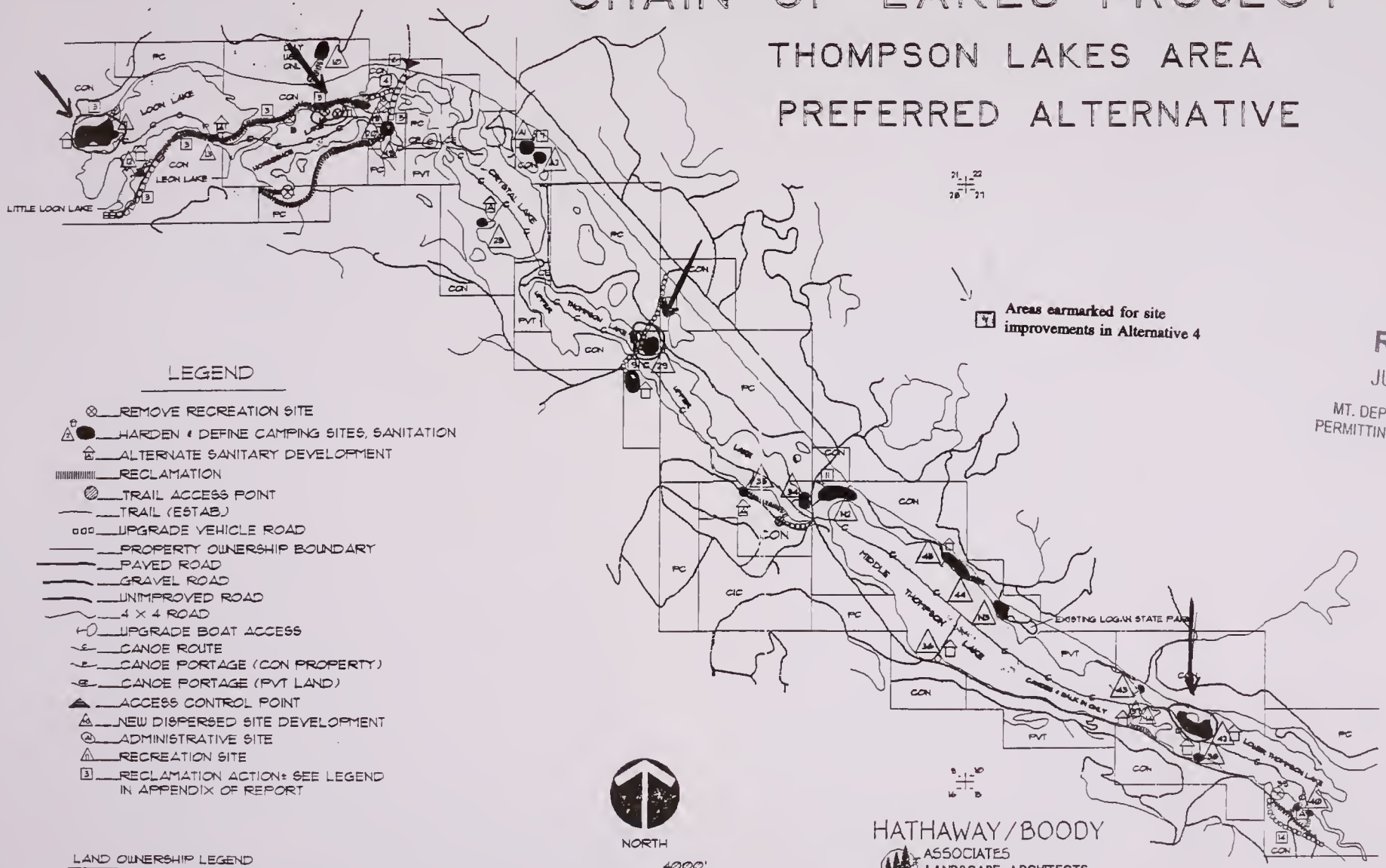
CHAIN OF LAKES PROJECT

THOMPSON LAKES AREA

PREFERRED ALTERNATIVE



LEGEND

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LAND OWNERSHIP LEGEND

CON • CONSERVATION FUND LANDS
CIC • CHAMPION INTERNATIONAL CORP. LANDS
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USFS • NATIONAL FOREST LANDS
PVT • OTHER PRIVATE OWNERSHIP
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NORTH

0 1320' 2640' 4000' 5280'

ONE INCH = 4000 FEET

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1610 J AVENUE
LA GRANDE, OREGON 97850
PHONE:(503)963-9347 FAX:(503)963-8889

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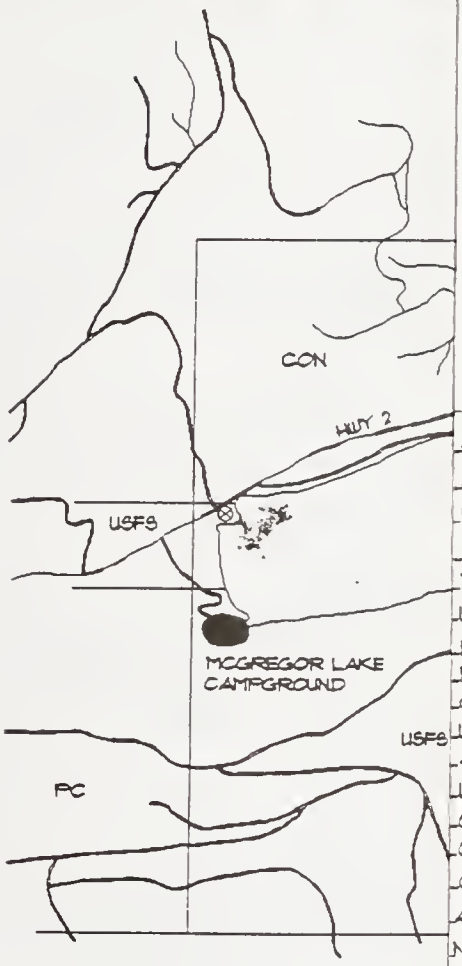
Areas earmarked for site improvements in Alternative 4



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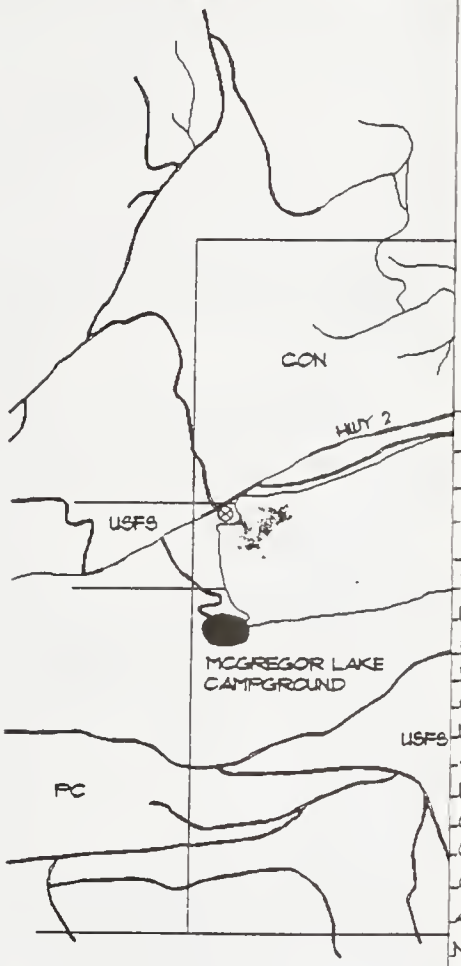

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LA GRANDE, OREGON 97850
PHONE:(503)963-8347 FAX:(503)963-8888
301 2nd ST. SUITE 1B
WHITEFISH, MT 59937
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CHAIN OF LAKES PROJECT

McGREGOR LAKE – PREFERRED ALTERNATIVE

Areas earmarked for site improvements in Alternative 4

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ENVIRONMENTAL AND ECONOMIC CONSEQUENCES

Effects Common to All Alternatives:

State water quality laws protect water quality in all alternatives. Due to the lack of adequate funding to enforce and monitor State and county water quality regulations, some short-term adverse environmental effects would occur in Alternative I due to extensive subdivision and development that may take place if the land were left in private ownership. Similarly, in Alternative IV, which envisions the lowest level of actual development and use, short-term adverse impacts on water quality is less likely to occur. In the long term, water quality could be maintained in all alternatives.

Alternative I:

This leaves most of the land in private ownership and may provide the greatest short-term economic gain to the local economy. There is a high demand for privately owned lakeshore property. Land now owned by the Mellon Foundation, if not acquired by the State of other government entity, would be subject to subdivision and development. This would provide employment to surveyors, developers, realtors and building contractors. Additional local businesses such as marinas, boat storage, private security, stores and supper clubs could develop. Currently, prices for the limited lots now available are in the $30,000 to $75,000 range. Depending upon how many lots were placed on the market at any time, lot prices could increase or decrease. Prices above the $30,000 to $50,000 range make ownership beyond the means of most local citizens and persons desiring to utilize the recreation resources of the Chain of Lakes. Under Alternative I, there would probably be an increase in the percentage of non-residents or new residents using the area. Traditional recreation use of the Chain of Lakes would decline.

Alternative I might also increase the probability that these new residents would attempt to reduce intensive timber production and grazing on surrounding forest land. Owners and managers of the surrounding forest lands would have to give increased emphasis to the amenity values on their lands as these lands become the front and back yards of new lakeshore residents.

Alternative I, because of subsequent subdivision and development, would increase the local property tax base. A review of local mill (tax) rates indicate that mill rates are higher in areas of concentrated development like towns and cities, and lower in rural sparsely settled areas. Frequently, the demand for additional public services outstrips the increase in tax base. This trend could perhaps be avoided if lakeshore development is high quality and seasonal in nature. Seasonal residents usually place less demands on the public school and welfare systems.

Under Alternative I there could be increased public pressure to provide fishing access and boat launch facilities on all the lakes. Lakes and their fishery stocks are public resources and the public would demand access to these resources. There could be increased conflicts between recreationists and lakeshore property owners.

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State water quality laws protect water quality in all alternatives. Due to the lack of adequate funding to enforce and monitor State and county water quality regulations, some short-term adverse environmental effects would occur in Alternative I due to extensive subdivision and development that may take place if the land were left in private ownership. Similarly, in Alternative IV, which envisions the lowest level of actual development and use, short-term adverse impacts on water quality is less likely to occur. In the long term, water quality could be maintained in all alternatives.

Alternative I:

This leaves most of the land in private ownership and may provide the greatest short-term economic gain to the local economy. There is a high demand for privately owned lakeshore property. Land now owned by the Mellon Foundation, if not acquired by the State of other government entity, would be subject to subdivision and development. This would provide employment to surveyors, developers, realtors and building contractors. Additional local businesses such as marinas, boat storage, private security, stores and supper clubs could develop. Currently, prices for the limited lots now available are in the $30,000 to $75,000 range. Depending upon how many lots were placed on the market at any time, lot prices could increase or decrease. Prices above the $30,000 to $50,000 range make ownership beyond the means of most local citizens and persons desiring to utilize the recreation resources of the Chain of Lakes. Under Alternative I, there would probably be an increase in the percentage of non-residents or new residents using the area. Traditional recreation use of the Chain of Lakes would decline.

Alternative I might also increase the probability that these new residents would attempt to reduce intensive timber production and grazing on surrounding forest land. Owners and managers of the surrounding forest lands would have to give increased emphasis to the amenity values on their lands as these lands become the front and back yards of new lakeshore residents.

Alternative I, because of subsequent subdivision and development, would increase the local property tax base. A review of local mill (tax) rates indicate that mill rates are higher in areas of concentrated development like towns and cities, and lower in rural sparsely settled areas. Frequently, the demand for additional public services outstrips the increase in tax base. This trend could perhaps be avoided if lakeshore development is high quality and seasonal in nature. Seasonal residents usually place less demands on the public school and welfare systems.

Under Alternative I there could be increased public pressure to provide fishing access and boat launch facilities on all the lakes. Lakes and their fishery stocks are public resources and the public would demand access to these resources. There could be increased conflicts between recreationists and lakeshore property owners.

The current semi-primitive, undeveloped nature of the area that attracts many recreationists to the Chain of Lakes, would be changed as more and more permanent residences are built on the lakeshore. Public use would be concentrated into large public campgrounds. User fees would increase to pay for more sophisticated sewage and water systems, and for visitor control.

The increased development of the lakeshore would reduce the quality of wildlife habitats as native vegetation is converted to private lawns, swimming beaches and boating facilities. Shore nesting birds like loons and ducks would be impacted. The desirability of the area for bald eagles and elk would be reduced. Wildlife viewing opportunities for native wildlife would be reduced. Development would reduce scenic qualities.

Continued public hunting on nearly 4,000 acres of TCL land could be eliminated. Opportunities for waterfowl hunting would decline.

Alternatives II, III and IV:

These have many similar environmental effects, both beneficial and adverse. Under all of these three alternatives, all 4,000 acres of the former Champion land, now owned by the Mellon Foundation, would become public land. The only difference between these three alternatives is the amount of public development and type of development.

All three alternatives would impact the local property tax base. The tax base would be reduced because no development, and hence no higher tax rate, would be applied in the future. Currently these lands are taxed as corporate timber land based on their value for timber production. Current taxes are about $1 per acre per year, or about $4,000 total for the entire property. These taxes are apportioned at about three fourths for Lincoln County and one fourth for Flathead County. Payment in lieu of taxes will be made by FWP to Flathead and Lincoln counties under Alternative IV as required by law (Sec. 87-1-603 MCA). This payment would not be received under Alternatives II or III.

Acquisition of these lands reduces the availability of private lands for subdivision which may increase the value of remaining private lands; hence, taxable value on adjacent private lots will go up.

All of these alternatives would maintain most of the area in undeveloped lakeshore. This will tend to maintain more aquatic, riparian and upland wildlife habitat in natural conditions. This will provide for higher populations of wildlife such as loons, ducks, eagles, osprey, elk, deer and pileated woodpeckers. There will be greater biological diversity with Alternatives II, III and IV when compared to Alternative I.

Alternative III and IV would not substantially add to the existing road system. The only road improvements would be the upgrading/graveling of existing roads. Alternative II would eliminate some roads and reduce vehicle access.

Alternatives II, III and IV provide a broader range of recreation opportunities for the general public than Alternative I. Because of the lower level of private land development, there would be fewer conflicts between private and public recreation users. Under these alternatives, users would be more tolerant of the commodity use of surrounding forest land for timber and grazing.

Some restrictions on motor boat use is contemplated in all three alternatives. More restrictions are planned for Alternative II than Alternatives III and IV. The difference is that only low-wake boating on Horseshoe Lake is recommended in Alternative II.

Alternatives II and III caters to a wider range of resident and non-resident visitors; therefore, local businesses would be more likely to develop than in Alternative IV. This benefits commercial businesses in Kalispell and Libby. As the popularity of this area becomes more known outside of northwest Montana, there could be an increase in demand for private campgrounds and resorts that cater to the recreationist seeking more developed accommodations.

Alternatives II and III conceptualize managing TCL as a "park" with development of canoeing, biking and hiking trails, dispersed campsites and larger developed campgrounds. Alternative IV focuses on the concept of managing the area as a fishing access with development of boat launch facilities and primitive camping facilities. Alternatives II and III would probably result in greater use by non-residents because of the larger number of developed campgrounds and the canoe and hiking trails. Alternative IV would result in a higher percentage of recreation use by local citizens.

Alternatives II and III close some existing dispersed sites to RV camping. Some closures will allow boat-in or hike-in camping and some closures would prohibit all overnight use at a particular site. While traditional dispersed camping in Alternatives II and III is reduced, there will be a larger number of campsites in developed campgrounds. In Alternative IV dispersed camping is maintained at the current level and no new developed campgrounds are planned.

Alternatives II and III will implement some road closures, thereby reducing some motorized recreation opportunities for 4 wheeling and pleasure driving. Alternative IV does not plan any road closures on established roads. Alternatives II and III anticipate developing trails for non-motorized recreation for hiking, mountain biking and cross country skiing. Alternative II provides more of these trails than Alternative III. Alternative IV plans no trails specific to non-motorized use.

Alternatives II and III, being managed as a park, would require user fee collections.

Alternatives II and III plan a canoe route. Alternative IV does not plan a canoe route.

Alternative IV mentions forming a citizen oversight committee to help guide development and management of the area. While such a group is not planned in Alternatives II and III, there seems to be no reason why such a group could not be formed.

AFFECTED ENVIRONMENT

DESCRIPTION

The 3,917.83 acres donated by Champion International Corporation stretch for 20 miles along U.S. Highway 2 between Kalispell and Libby. This includes portions of shoreline along most of the 21 lakes, numerous smaller lakes and 6 small seasonal ponds. Eight of the larger lakes reach depths of 220 feet. The area provides seasonal habitat for some threatened, endangered, and sensitive animal species. Thompson Chain of Lakes also lies along a recreation corridor that receives increasingly heavy use as the Flathead Valley population and regional tourist industry grow (see Location Map in Figure 7).

Ownership

The Thompson Chain of Lakes area is presently a checkerboard of five principal types of ownerships. Champion Timber Corporation has donated major portions of land immediately adjacent to the lakes to the Mellon Foundation and potentially to the people of Montana. Champion retained ownership of substantial lands in the Chain of Lakes area, but has subsequently sold those properties to Plum Creek Timber Corporation. Plum Creek Timber Corporation had substantial property in the area before purchasing the lands belonging to Champion, and is now a major landholder in the area. The Kootenai National Forest manages the majority of land on the south side of McGregor Lake. FWP operates Logan State Park on Middle Thompson Lake as well as dispersed, fairly primitive fishing access on Upper Thompson Lake called the Centennial Acre, and another fishing access site along Highway 2 with frontage on the Lower and Middle Thompson lakes peninsula. FWP also owns a small fishing access site on Crystal Lake which has not been developed. Small residential ownerships, consisting of small parcels generally less than 1 acre, border portions of McGregor, Upper Thompson, Middle Thompson, Crystal, Lavon and Bootjack lakes. These parcels are sites of both permanent and summer homes, most of which are waterfront properties. Three commercial cattle ranches own land near the lakes and participate in land management adjacent to the lakes through grazing leases. Two commercial restaurant/lodges are near the east and west edges of the area (see Land Ownership Map in Figure 8).

Land Use

Land use in Thompson Chain of Lakes area is primarily recreation, residential, grazing and timber harvest. Recreation use is heavily slanted toward water sports, principally fishing, with water-skiing and swimming secondary. Hunting occurs in the fall. Hiking, photography, and camping are common recreational pursuits in the Thompson Chain of Lakes area. Winter activities include ice fishing, and to a lesser extent, snowmobiling and cross-country skiing. Four grazing leases occur on TCL property. Timber management activities are extensive in the area. Past timber resource management has stressed the importance of protecting the basic

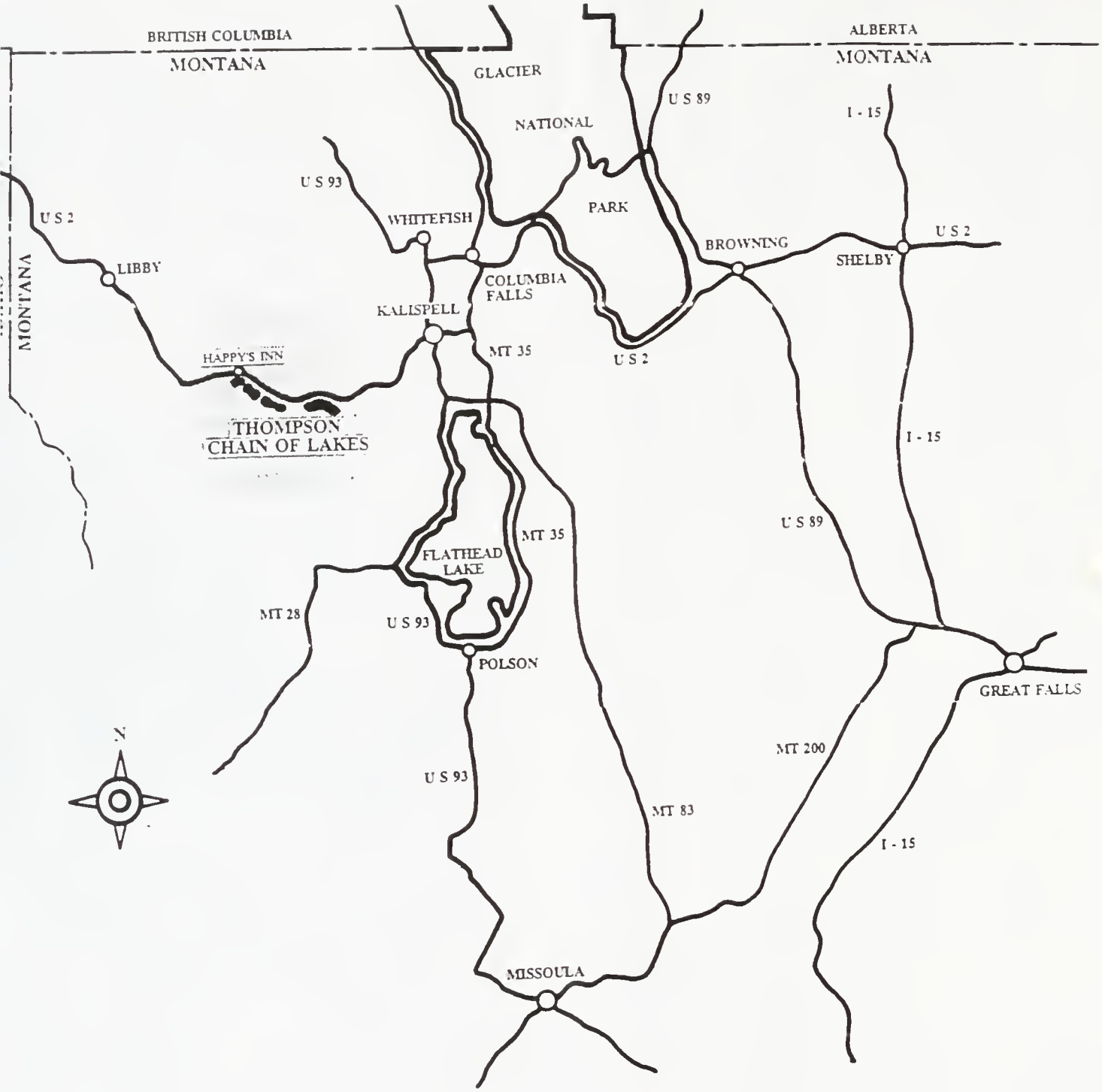
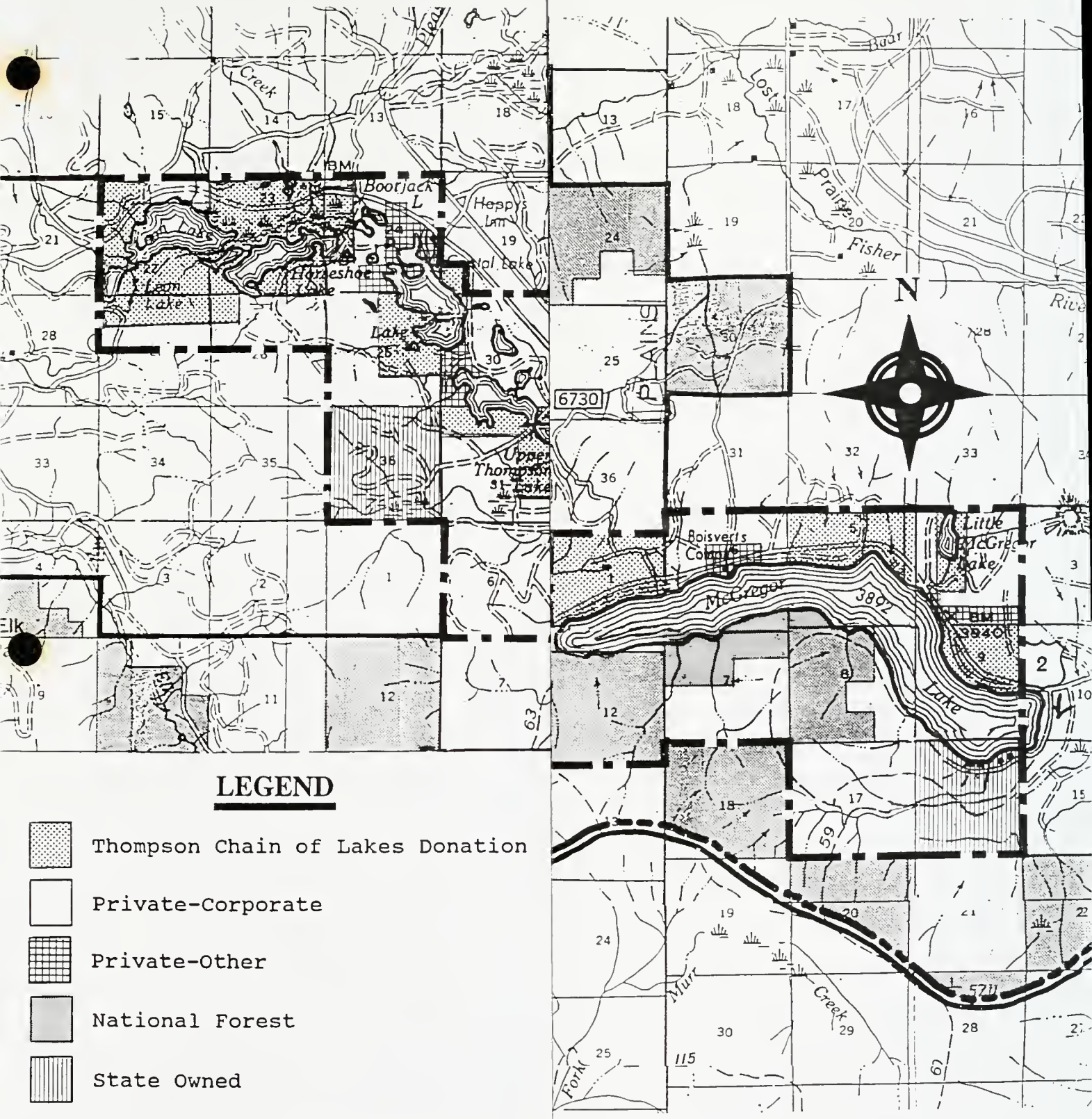


Figure 7. Location Map



LEGEND

- Thompson Chain of Lakes Donation
- Private-Corporate
- Private-Other
- National Forest
- State Owned
- Planning Area

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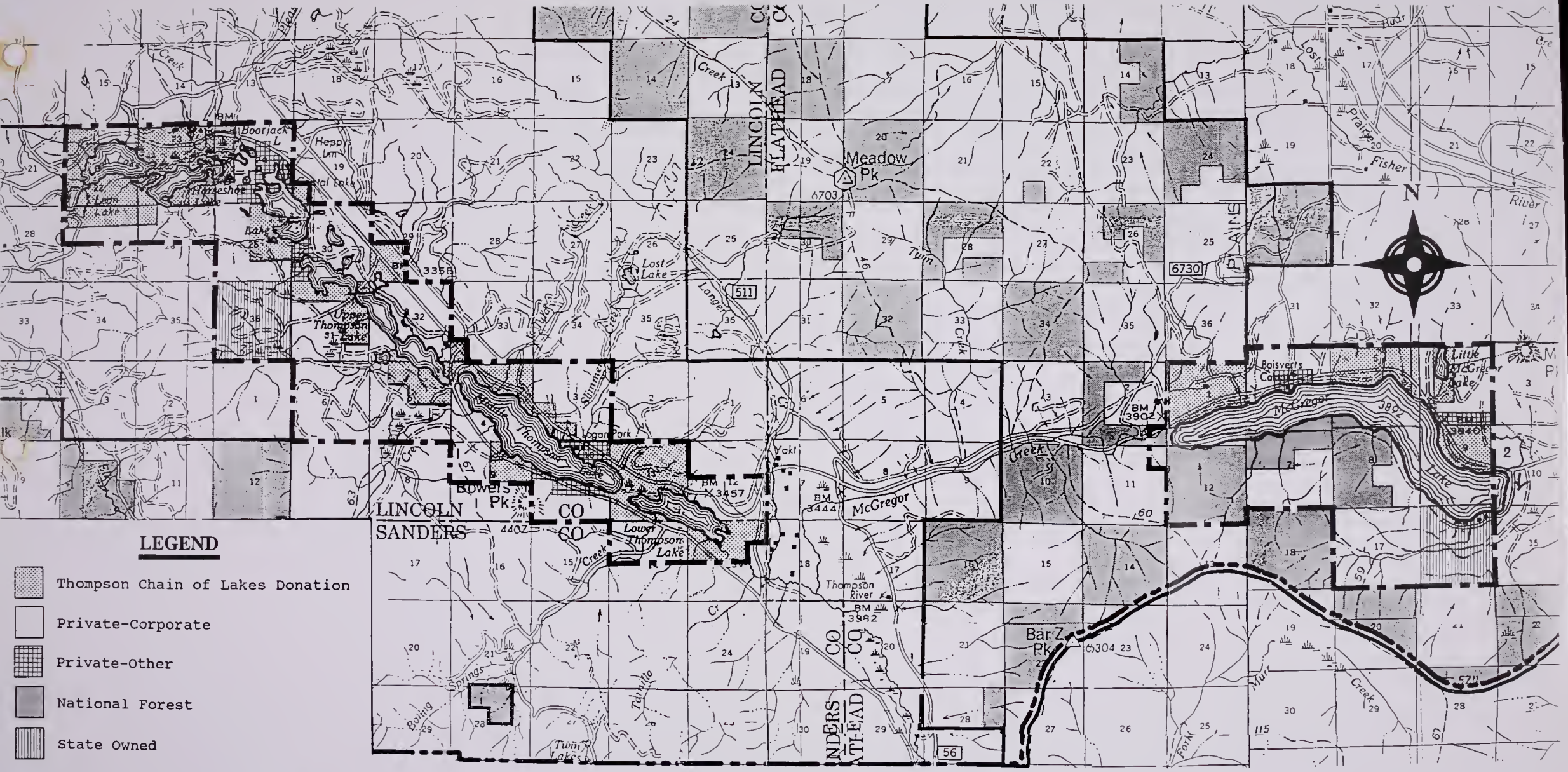

Figure 8. Land Ownership Map

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resource of this area, hence, timber harvest immediately adjacent to the lakes on the donated land has been moderate and has preserved the basic resources. However, noxious weeds are presently invading the open areas, impacting more desirable native vegetation.

The Thompson Chain of Lakes area has contributed to the economies of Libby and Kalispell, as well as contributing to local businesses near the lakes. Major land uses include:

Logging: Past land use has included extensive harvest of timber on private timber company land and on Forest Service land and is discussed further in the section on vegetation. Logging had begun in the area in the 1920s. Harvest of second growth timber is underway at the present time. The management of adjacent Plum Creek and Champion land is primarily for commercial timber production.

Grazing: Livestock grazing has also occurred on these lands since the mid-1800s when the first ranchers/settlers arrived. Grazing began along the lakeshores and in adjacent meadow areas, stream courses and open forest slopes of the Thompson Chain of Lakes area soon after the first settlers arrived in this part of Montana. Because the area was mostly forest and wetland, it did not receive the intense grazing pressure occurring in more traditional rangelands. The majority of the grazing land in this area is transitional grazing. As trees reoccupy once logged areas, forage in these sites will diminish. Present grazing practices in the Thompson Chain of Lakes area are generally conscientious though problems of overuse exist in specific locations. Conflicts with recreationists are present near lakes and riparian zones. Bunchgrasses are still present on most allotments (see Grazing Lease Map in Figure 9).

Grazing Lease Descriptions:

1. **Big Meadows.** This area consists of 165 acres of selectively logged forest, north of Hwy. 2, in Sec. 23, T27N, R28W, that supports a leave stand of ponderosa pine, Douglas fir, lodgepole pine and western larch of various age classes. Grazing has occurred on this area this season. Grazing capacity will diminish as forest stands grow and the canopy closes.

2. **Metcalf.** This area (Sec. 5, T26N, R27W) is mostly level with some gentle slopes to the north. All of this leased area supports a dense stand of mostly mixed conifers with some aspens which grow on moister meadow sites. This lease has been previously logged. Mature and over-age trees of all species have been removed and a mixed-age stand remains. Much of the stand in the southern portion of the lease is dominated by lodgepole pine (Pinus contorta) and western larch (Larix occidentalis). Forage species are principally composed of sedges, Pine grass and, in the disturbed areas around roads and the lake edge, Kentucky bluegrass. Grazing in late summer, 1992 has removed approximately 50 percent of available forage.

3. **South and West of Lake.** This 155 acre area (NE 1/4 of Sec. 9 T26N, R27W) supports a dense stand of mixed conifers (Douglas fir, western larch, Engelmann spruce and

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3. **South and West of Lake.** This 155 acre area (NE 1/4 of Sec. 9 T26N, R27W) supports a dense stand of mixed conifers (Douglas fir, western larch, Engelmann spruce and

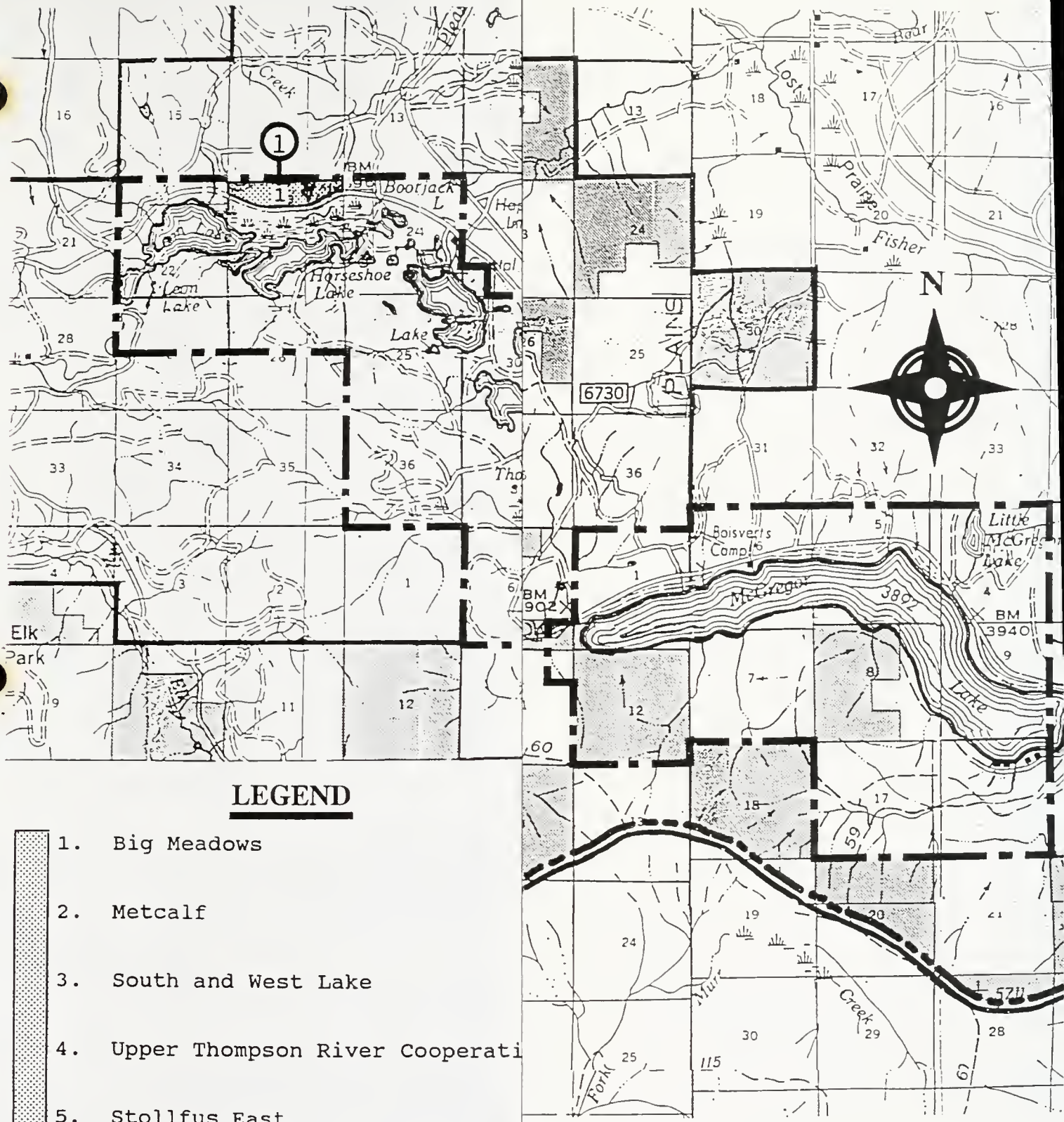
lodgepole pine), together with scattered alder and cottonwood trees. Forage species consist of sedges, pine grass and Kentucky bluegrass in disturbed areas and adjacent to the lake. This is a forested site, mostly on a steep slope with a northern exposure. About 35 acres of level land lies along the road and close to the lake.

4. **Upper Thompson River Cooperative.** This 58 acre area in Sec. 13, T26N, R27W has had mature and over-mature trees removed by selective logging. The remaining timber is a mixed age stand of principally Douglas fir and lodgepole pine. This is a forest site. The level ground lies along the access road and adjacent to the lake. The remaining land is a steeply sloped, densely forested northern exposure and does not provide land suitable for grazing at the present time.

5. **Stollfus East.** This 170 acre area Sec. 13, T26N, R27W (North and East of Lower Thompson Lake) is an open stand of mixed conifers made up of ponderosa pine, Douglas fir, lodgepole pine and western larch. Understory grasses are primarily composed of sedges, pine grass and Kentucky bluegrass in the disturbed areas. Slopes are steep and the more level portions of the leased area are presently grazed at or above proper use. This area is steep, lies along the wetland areas extending to the southeast down the Thompson River, or is level ponderosa pine covered land that is suitable for development as camping areas. It also has high wildlife habitat potential.

6. **Stollfus North.** This area in Sec. 11, T26N, R27W lying north of Hwy. #2 is a forest site. It has been previously logged and presently supports a mixed stand of conifers consisting of ponderosa pine, Douglas fir, western larch and lodgepole pine. There are scattered quaking aspens in some moister areas. This lease consists mostly of steep slopes that have a southern exposure together with some smaller exposures to the north and east, along the principal water course in the leased area. Forage species consist of sedges, pine grass and scattered blue bunch wheatgrass on the drier exposures. All of this area that is on moderate slopes to smaller level areas has been properly grazed as of this inspection. Spotted knapweed is a significant invader on this leased area.

7. **NW 1/4 SW 1/4 Sec. 3, T26N, R27W.** This area is nearly all a southern exposure and supports a stand of previously logged mixed conifers. Ponderosa pine, Douglas fir and western larch predominate. Forage species consist principally of pinegrass and scattered sedges. Present grazing level is moderate in intensity. The whole area is infested with spotted knapweed and grazing capacity will be reduced as this invader continues to increase in density and range on this lease.



LEGEND

1. Big Meadows
2. Metcalf
3. South and West Lake
4. Upper Thompson River Cooperati
5. Stollfus East
6. Stollfus North
7. NW¼ SW¼ Sec. 3, T26N, R27W.

Planning Area

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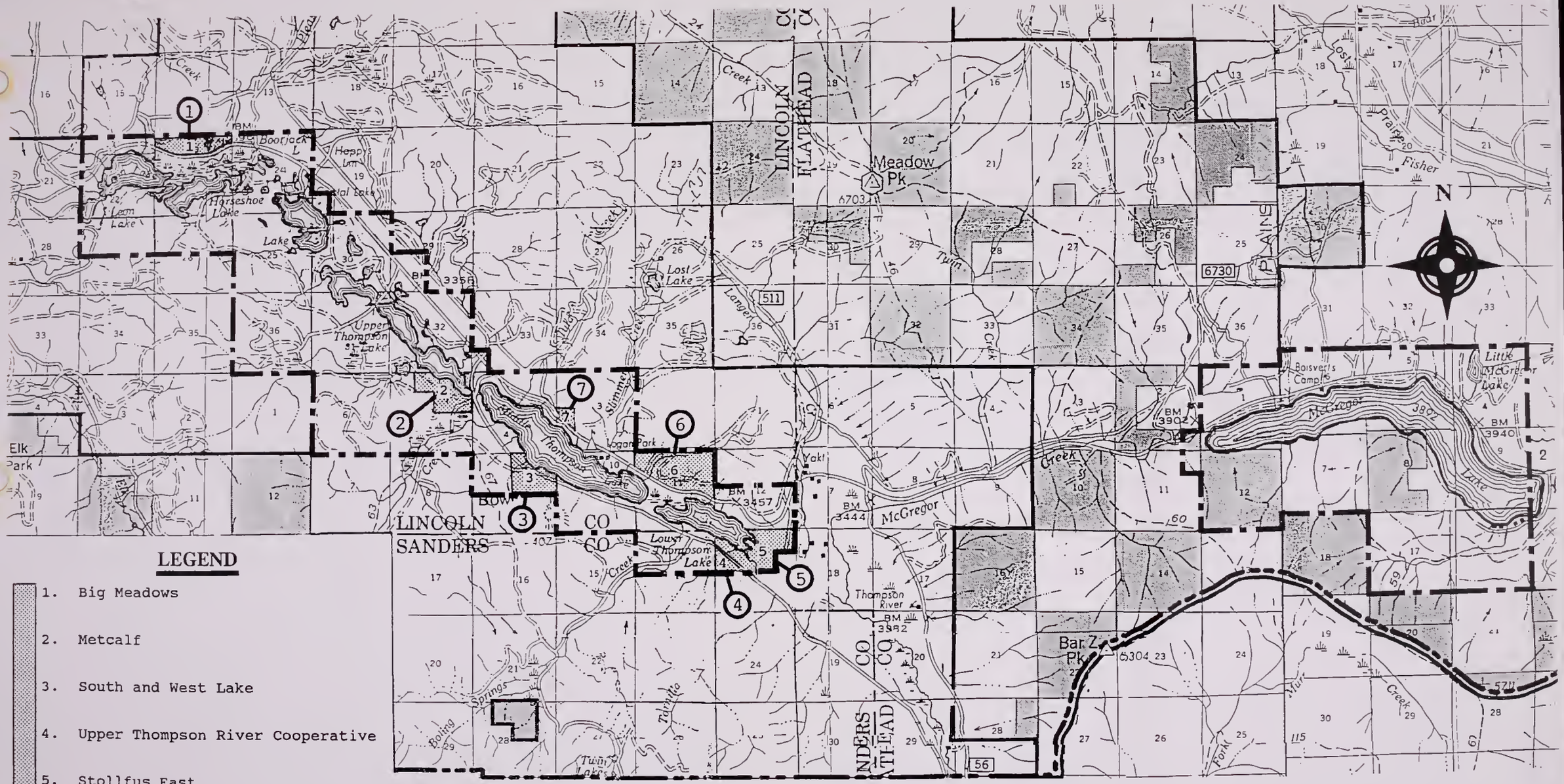

Figure 9. Grazing Lease Map

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All leased grazing areas visited consist, for the most part, of sites whose soils and vegetation reveal that tree production is the climax vegetation for these areas. There is an understory of shade-tolerant sedges and pine grass (Calamagrostis rubescens) in the moister sites with scattered bunchgrasses, (Agropyron spicatum and Festuca idahoensis) to be found on drier sites with a southern or western exposure. These grasses or grass-like plants are the principal grazing species found on the slopes of these grazing areas. Adjacent to the lakes and on the flat areas along the roads and near the lakes, Kentucky Bluegrass (Poa pratense) dominates. At the near edges of the lakes there are numerous aquatic or water-loving grasses and reed species. These should be protected in order to preserve the aquatic life and water quality.

Figure 10. Many private cabin lots have boat docks.

Recreation: Use of the land, as well as the water, for outdoor recreation is increasing as timber harvest declines. Fishing and hunting both are important uses, although fishing is the more common. This includes winter ice fishing on most of the lakes. A complete site inventory has

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not been done, however a "known camping areas" inventory was conducted in February, 1993 (see map in Figure 11).

Definitions used for the inventory were:

1) Camping Area is a location with one or more campsites for overnight camping for many years. Evidenced by trampled vegetation, bare ground, user developed fire rings, tables, boat launches, boat docks, and/or outhouses.

2) A campsite is a simple camping spot used by single or multiple families.

No attempt was made to inventory separate picnic sites, day use areas, or all roads and lakeshores where someone may have camped a time or two. The inventory included only TCL lands and data gathered in 1991 by Wayne Worthington, the Forest Service, Consultants Hathaway and Boody, and from the knowledge of eight local landowners.

The established campgrounds managed by State Parks and the U. S. Forest Service have adequate waste treatment facilities. The dispersed camping areas around and near the lakes all show evidence of human waste. The pit toilets at these sites are all in poor condition and, therefore, are not being used. Most sites show signs of periodically heavy use and continual visitation.

Existing Recreation Facilities:

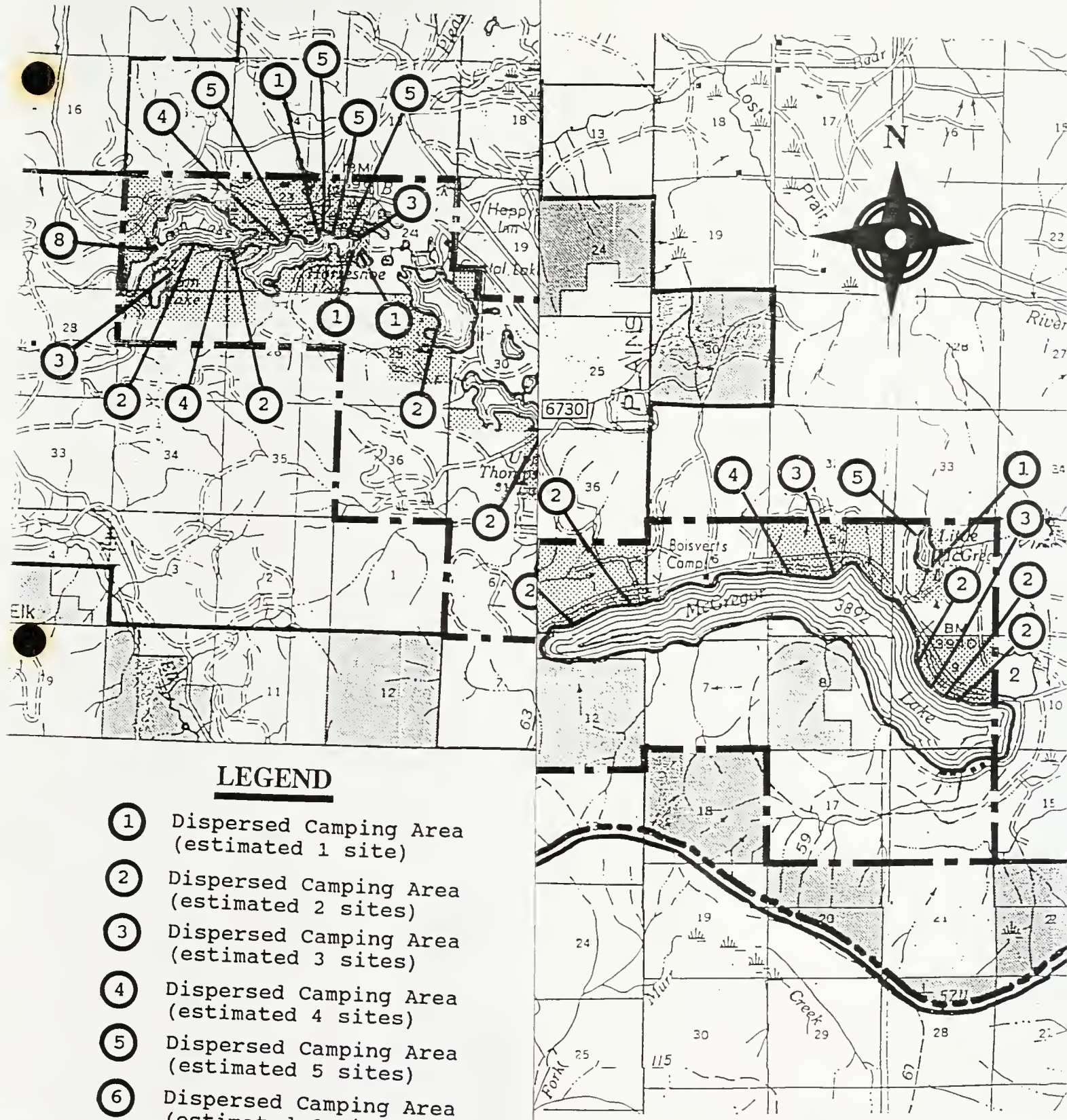
1. Cibid Lake. This small lake has one undeveloped camp site on the west shore and an informal, user-developed boat-launch on the east shore that shows evidence of camping use. There are no sanitary facilities and some evidence of garbage disposal on site.

2. Crystal Lake. Crystal Lake has no sanitary or garbage disposal facilities. There are two undeveloped campsites on the southwest side of the lake, plus an undeveloped deeded access on the east side. Happy's Inn currently operates a free boat launch site and also operates an adjacent site that can be rented for group picnics, camping, and swimming.

3. Horseshoe Lake. Horseshoe Lake has approximately 25 undeveloped campsites along the north shore of the lake as well as one dispersed site on the south shore and three sites on the east end of the lake.

Two areas on the north side of Horseshoe Lake as of 1992 had pit toilets located within one hundred feet of the lake. The toilets are in poor condition with strong evidence of human waste in the vicinity of the picnic areas and signs of periodic heavy use around the undeveloped campsites. There are no fire pits or tables at these sites. Water used at these sites is either packed in or is user-treated lake water

Figure 11. Known camping areas on TCL lands (155 campsites).



LEGEND

1. Dispersed Camping Area (estimated 1 site)
2. Dispersed Camping Area (estimated 2 sites)
3. Dispersed Camping Area (estimated 3 sites)
4. Dispersed Camping Area (estimated 4 sites)
5. Dispersed Camping Area (estimated 5 sites)
6. Dispersed Camping Area (estimated 6 sites)
7. Dispersed Camping Area (estimated 7 sites)
8. Dispersed Camping Area (estimated 8 sites)

Planning Area

Thompson Chain of Lakes Dona

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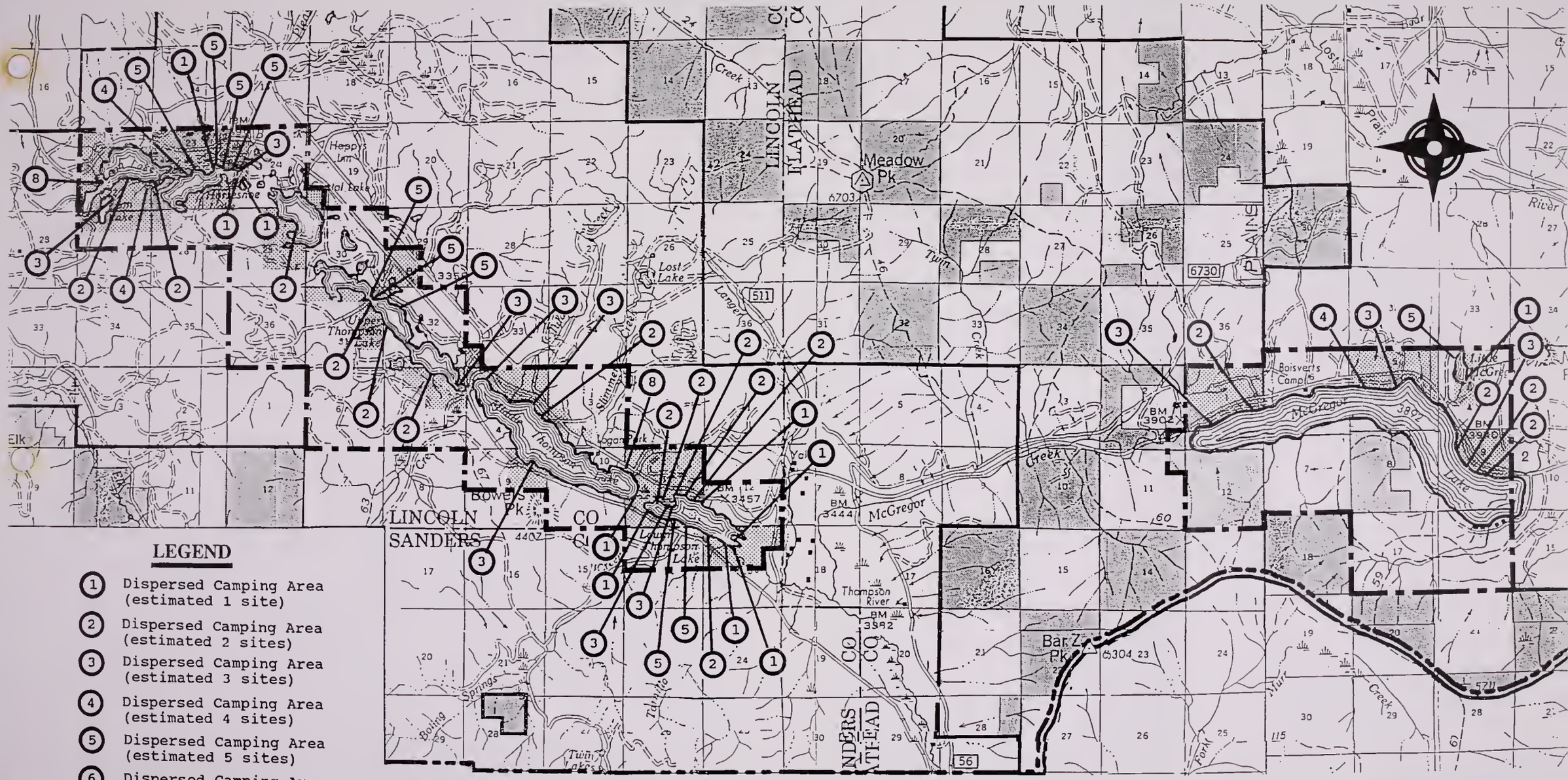

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4. Leon Lake. Leon Lake has a dispersed camping area on the west end. This area has no sanitary or garbage disposal facilities or potable water. The area is located within fifty feet of the lake shore and shows moderate evidence of human waste disposal and limited garbage disposal.

5. Little Loon Lake. Little Loon Lake has one dispersed camping area on the north east end of the lake with three sites. The camping area does not have any sanitary or garbage disposal facilities or potable water. There is moderate evidence of human waste disposal in the area around the campsites and limited evidence of garbage disposal on site.

6. Loon Lake. Loon Lake has three dispersed camping areas with a total of 12 sites. One area is located on the west end of the lake. There are no sanitary or garbage facilities available at Loon Lake. Evidence of human waste disposal is present throughout the area, although other indications of heavy periodic use are not evident in most of the undeveloped campsites. A user-developed boat launch appears to be adequate for the present use of small to moderate size fishing boats.

7. Little McGregor Lake. Little McGregor Lake has approximately six unsigned, undeveloped campsites located primarily on the west side of the lake. These sites have no established sanitary facilities or solid waste disposal. There is currently little evidence of garbage disposal and limited evidence of human waste disposal. There is currently no legal access to Little McGregor Lake.

8. McGregor Lake. Existing facilities on McGregor Lake consist of an established U.S. Forest Service campground, dispersed camping areas with an estimated 19 campsites and two commercial resorts.

The U.S. Forest Service campground on the west end of the lake is maintained by the Forest Service on a seasonal basis and includes 15 available campsites, a picnic area and a boat ramp. Each campsite is provided with a concrete fire pit and a picnic table with an established parking area and campsite designation. The campsites have access to vault toilets with an additional portable toilet being brought in during peak user periods. The McGregor Lake campground is operated as a fee campground, and experiences approximately 2,500 user days per year with most use occurring during the months of July and August. The U.S. Forest Service maintains garbage cans for garbage disposal during the peak user period (5\15-9\15) and a "Pack in - Pack out" policy for garbage disposal through the remainder of the year. The Kootenai National Forest currently is developing plans to upgrade this site.

McGregor Lake also has unsigned dispersed camping areas along U.S. Highway 2 on the north side of the lake; each of these areas have approximately two to four campsites each. These dispersed areas are maintained by users and have no developed facilities. The overall condition of these is good; very little problem exists with garbage disposal and there is limited evidence of human waste disposal.

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8. McGregor Lake. Existing facilities on McGregor Lake consist of an established U.S. Forest Service campground, dispersed camping areas with an estimated 19 campsites and two commercial resorts.

The U.S. Forest Service campground on the west end of the lake is maintained by the Forest Service on a seasonal basis and includes 15 available campsites, a picnic area and a boat ramp. Each campsite is provided with a concrete fire pit and a picnic table with an established parking area and campsite designation. The campsites have access to vault toilets with an additional portable toilet being brought in during peak user periods. The McGregor Lake campground is operated as a fee campground, and experiences approximately 2,500 user days per year with most use occurring during the months of July and August. The U.S. Forest Service maintains garbage cans for garbage disposal during the peak user period (5\15-9\15) and a "Pack in - Pack out" policy for garbage disposal through the remainder of the year. The Kootenai National Forest currently is developing plans to upgrade this site.

McGregor Lake also has unsigned dispersed camping areas along U.S. Highway 2 on the north side of the lake; each of these areas have approximately two to four campsites each. These dispersed areas are maintained by users and have no developed facilities. The overall condition of these is good; very little problem exists with garbage disposal and there is limited evidence of human waste disposal.

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9. Upper Thompson Lake. Upper Thompson Lake has at least five dispersed camping areas on the northwest end of the lake and a boat-launch. There is a total of 24 estimated campsites on the lake. One dispersed camping area has a pit toilet within 50 feet of the lake shore. The toilet is in poor condition and there is much evidence of human waste disposal and prolonged use at several sites. Garbage disposal is "Pack-in Pack-out" used in most of the TCL area. Evidence of garbage disposal on site is limited to a few scattered sites.

The unsigned dispersed areas on the north side of Lower Thompson have no established sanitary facilities or garbage collection facilities. The area has approximately 10 campsites. There is no evidence of a garbage problem and limited evidence of human waste disposal on site.

The dispersed areas along the south shore of Lower Thompson have no established sanitary facilities or garbage collection facilities. Evidence of garbage disposal and human waste disposal is limited to a few scattered sites.

10. Middle Thompson Lake. Middle Thompson Lake has a state-maintained and operated park on the north side (Logan State Park). Also on the north side is a dispersed camping area. On the south side of Middle Thompson lake there are dispersed camping areas adjacent to the ACM haul road. These have a total of 20 estimated campsites.

Logan State Park is adjacent to U.S. Highway 2 and has 44 designated campsites. Each has a parking spur, fire ring and picnic table. The campground has two flush toilets and drinking water faucets. A dump trailer sewage station is provided for motorhomes and camp trailers. Sewage is treated using a small digestive system with sub-surface application of treated effluent. Drinking water is provided using a well and cistern system. There are water faucets throughout the campground and water at each flush toilet. Logan State Park also has a picnic area with tables and fire rings. The picnic area is adjacent to a gravel boat launch with boat loading dock.

One dispersed camping area on the north side of Middle Thompson Lake has spaces for approximately three to five campers or camp trailers and the sanitation facilities include one pit toilet. The garbage disposal facilities are "Pack-in Pack-out."

The other area on the north side of Middle Thompson Lake has established fire pits and tables for approximately 5 parties. There is also dispersed camping in this area with space for approximately two to five camping parties. There are no sanitation facilities or garbage disposal facilities and the area shows evidence of human waste disposal and garbage disposal on site.

The dispersed camp sites on the south side of Middle Thompson lake do not have access to any sanitary or solid waste disposal facilities. Evidence of human and solid waste is present in close proximity to lake access sites.

11. Lower Thompson Lake. Lower Thompson Lake has several unsigned dispersed camping areas on the north side adjacent to U.S. Highway 2 and dispersed areas along the south shore. These have a total of 33 estimated campsites. The one north side area has established

fire pits and tables with designated areas for parking. There is one pit toilet on the peninsula. Garbage is handled by "Pack in - Pack out."

NATURAL RESOURCES

The Thompson Chain of Lakes area is a repository of multiple natural resources including water resources, wildlife, fisheries, and plants. Economic deposits of magnesium carbonate were mined from veins within Precambrian Belt Group bedrock south of Loon Lake. The area is north and east of the principal Libby and Wallace mining districts; however, economic deposits of metallic ores are unlikely to be found in the immediate area.

The eastern portion of this area is the headwaters of the Thompson River, a major tributary of the Clark Fork River, while the western portions feed significant flow to the Fisher River which, after joining the Kootenai River, eventually enters the Columbia River system. Thompson Chain of Lakes water is used for residences along the lake shores and provides habitat for a fisheries resource that now is primarily introduced, non-native species. Water-related birds, including bald and golden eagles, common loons, red-necked grebe, and osprey nest on or along the shores of these lakes; waterfowl use them as both summer nesting and migratory flyway rest stops. Thompson Chain of Lakes also provides a wintering area for bald eagles. Game animals, including white tail and mule deer, black bear, elk and occasional moose utilize the area for feed and water. Available habitat could seasonally contribute to the areas ability to support wolf and wolverines.

The Thompson Chain of Lakes presently offers a unique combination of recreational opportunities to local residents and tourists. Activities include wildlife-watching, fishing, hunting and water-skiing. As traffic on U.S. Highway 2 increases in the Libby-Kalispell corridor, recreational use of the lakes and surrounding areas will increase, and land use patterns may change. Planning for and management of recreational use compatible with water and wildlife resources is necessary to maintain and protect area resources and the quality of human experiences.

Physiography

The Thompson Chain of Lakes area, including McGregor Lake, is located approximately midway between Kalispell and Libby, Montana. There are 21 lakes and 6 shallow, seasonal ponds along a 20 mile-long area at the headwaters of the Thompson River. Three large, connected lakes (Upper, Middle, and Lower Thompson) form the western headwaters of the Thompson River; McGregor Lake, about 4 1/4 miles long and the largest of the area lakes, forms the east headwaters of the Thompson River. Loon and Little Loon lakes form part of the Pleasant Valley Fisher River. A number of small lakes and two large ones (Horseshoe and Crystal) have no apparent surface discharge, but receive and exchange water entirely through the gravels in the Thompson Chain of Lakes basin.

Lake Geography: Total surface area of lake water in the Chain of Lakes, including McGregor Lake's 1328 acres, but not including water in seasonal lakes, is 3021 acres according to figures of the Montana Department of Fish Wildlife and Parks.

Overall, the lakes fall in the geologic category of "kettle lakes", formed by ice action and remnant chunks of glacial ice in glacial moraines and tills at the end of the last glacial advance about 12,000 years ago. They are generally elongate E-W in shape. They are generally deep for kettle lakes. McGregor Lake, has a maximum depth of 220 feet, with another pool 200 feet deep. See Figure 12 for depth and area of the major lakes. The maximum depths in these lakes are found as localized "holes". Average lake depths are probably close to 45 feet. McGregor Lake has the steepest "drop-off"; Horseshoe Lake is the overall shallowest large lake, with most of its water less than 60 feet deep. Depths of the smaller lakes vary from Leon Lake's 87 feet to seasonal ponds that accumulate 5 to 8 feet of water in the spring and are dry by summer's end.

These lakes form the headwater area of the south-flowing Thompson River and the west flowing Pleasant Valley Fisher River. The Chain of Lakes basin is a one to two miles wide, eight miles long, glacially scoured and gravel-filled trough with a base elevation about 3,340 feet. Elevations of the immediate surrounding peaks are about 4,500 feet on ridges such as Bowers Peak to the south (4445 feet), and un-named peaks at elevations of 4,200 to 4,900 feet. The ridgetops here are within three lineal miles of the lakes. Moderate slopes of 20 to 25 percent are common on the north-facing hills above the lakes. Peaks north of Thompson Chain of Lakes are higher than those on the south, but more remote from the valley floor, averaging 3 to 4 miles distance, and 6200 feet in elevation. Total relief in the Thompson Chain of Lakes drainage basin is about 700 feet to the south and 3,300 feet maximum to the north. The Conservation Fund lands, and the lands detailed in this Environmental Assessment are primarily bottom lands. Only about 500 acres of the 3,918 in TCL slope more than 10 percent.

Figure 12. Major Lakes

	MAX DEPTH	AREA (acre)
Crystal	154	178
Horseshoe	133	159
Leon	87	22
Little Loon	38	12
Loon	114	238
Little McGregor	35	33
McGregor Lake	220	1328
Upper Thompson	100	232
Middle Thompson	160	602
Lower Thompson	140	240

Source: Montana Department of Fish, Wildlife and Parks.

Precipitation: Records of the past 21 years, kept by the National Weather Service for a station seven miles southwest of Upper Thompson Lake, show an average annual precipitation of 25.36 inches in the valley bottoms. The recorded precipitation varies from 34.12 inches (1972) to 18.6 inches (1987). Records from higher elevations within the region indicate that significantly more precipitation--up to 60 inches--falls on peaks above 6,000 feet in elevation, and that precipitation increases generally with elevation in this part of Montana. The recharge capacity of these lakes is strongly affected by the rainfall on high peaks more than a mile to the north, and this area should be regarded as a principal ground and surface water source for Thompson Chain of Lakes.

The majority of the high-country precipitation falls as snow from November through January, however, February and March snowfall can be significant. The lake basin commonly accumulates snowfall of more than one foot from a single storm. Chinook (warming) storms occur in winter in the Thompson Chain of Lakes area. These systems develop on average once every six years. Their pattern is that of cold continental air colliding with warm maritime air, resulting at first in substantial snowfall. As warmer maritime air begins to dominate the system, rains lasting two to three days occur. As rain falls and freezing levels rise, the newly fallen snow melts rapidly. Results range from deep packs of alternating snow and ice layers to rapid flooding. The floods from chinook systems may be more rapid, severe, and of higher volume than the normal spring floods that occur in May and June.

Temperature: The Thompson Chain of Lakes area is affected by high temperatures in the summer and low temperatures in the winter. The maximum temperature recorded at the National Weather Service station near Thompson Lake is 96 degrees F (August 1981); minimum recorded temperature is minus 43 degrees F (December, 1990). Generally, temperatures reach into the 90's in July and August, and drop to the 20 to 30 below zero range in late December to early February. Winter temperatures produce a thick cover of ice on the lakes, allowing ice fishing as a major winter recreation.

Soils

The soils in the Thompson Chain of Lakes area are mostly developed from glacial tills and moraine, with additional contributions from volcanic ash, lake sediments and alluvial gravels. They are mostly silty, gravelly loams. Soils with a low percentage of clays and high percentage of silica-rich silts are highly erosive. Soils high in organic clay content lack strength when wet and expand and contract with moisture.

Soil characteristics classified by the Soil Conservation Service in 1992 are shown in Figure 13. The dominant glacial till/moraine/outwash derived soils, including Loon Lake, Courville, and Upsata, are considered "moderately" to "excessively drained", are slightly acid pH (5.6-6.5), have moderate permeability to about 12 inches and rapid drainage in somewhat coarser material below. Their permeability ranges with location and depth from moderate (0.6" to 2" per hour) to extreme (greater than 20" per hour).These soils occupy forested areas. They are erodible and create dusty conditions and silt-clay sedimentation from logging roads and other cuts. Because

they contain a comparatively low clay percentage, (0 to 15 percent in most soil to 14" depth, rarely to 20 percent at 60" depth), include few clays with expandable lattices, and have a porous structure, these soils are not expandable. They have a "low" shrink-swell potential according to Soil Conservation Service data. They tend to be the most "acid", with pH reaching 5.1.

Soils developed primarily on alluvium (stream and stream terrace/floodplain deposits) include Tamarack and Glacier Creek. These soils also contain a major component of stream-reworked glacial sediments. Generally these soils are finer-grained and less erodible than soils developed exclusively on glacial material, with silty loam or sandy loam to depths of 60 inches. Their permeability may be less rapid at depths than glacially derived soils, although rates of 2.0 to 20 inches/hour are noted in SCS reports. Because they contain comparatively little clay, and those clays are more stable, silica-potassium rich minerals--these soils have little expandable clay component and are classified by the SCS as "low" shrink-swell potential. Alluvial soils tend toward a slightly acid pH, (5.5 to 7). Soil characteristics vary slightly with depth and location.

Soils developed in boggy areas, former lake-bottoms, and other locations with high clay and/or organic content, include Blacklake Muck, Meadowpeak, and Blackcreek. These soils are deep, poorly drained, and have high water capacities (8 to 10"). Their permeability may be moderate (0.6 to 2.0"/hour), but their fine, clay-rich/organic nature and high water capacity make them unsuitable for "development". Clay comprises up to 50 percent of the material in these soils, with 20-35 percent clay in most. Soils in this group have "moderate" shrink-swell potential, according to SCS data. Their pH varies, but tends to be more alkaline (6 - 9).

Use Categories of Soils: Soil type, clay content, strength, pH, and hydrologic characteristics control land use. Soils with a tendency toward shrink-swell and expansive clays make poor building sites and require additional engineering in order to provide adequate building foundations. These soils have permeabilities too low for sanitary facilities or for filtering natural nutrients. Soils with large particle size and clay contents too low to bind larger particles together are erosive and often have low strength characteristics. They may be poor filters for sanitary requirements or for nutrient filtering. These factors--poor drainage and low strength, and excessive drainage with high erodability--are the most limiting as well as the most common characteristics of soils in the Thompson Chain of Lakes area.

Figure 13. Soil Characteristics of
Thompson Chain of Lakes

Principal Soil Types

SOIL	ORIGIN	pH	EXPAND-ABILITY	PERMEAB. INCH/HOUR	CONCERN
Upsata	Glacial	5.1-6.5	low	20-0.6	erosive, sanitary
Loon Lake	Glacial	5.6-7.3	low	0.6-2.0	erosive
Courvle	Glacial	5.6-7.3	low	0.6-2.0	erosive
Tevis	colluv	5.6-7.3	low	2.0-6.0	erosive, sanitary
Glac Crk	Alluv & glacial	5.6-7.3	low	20-0.6	sanitary
Tamarck	Alluv	5.6-7.3	low	0.6-2.0	few
Black Creek	Alluv bogs	5.6-8.4	mod-low	0.6-2.0	expand, wetness
Tall Creek	lake, alluv	5.6-8.4	mod	0.6-6.0	expand
Half Moon	old lake	4.5-9.0	low-mod	0.2-0.6	wet, expand
Blk Lake	old lake	7.0-9.0	mod-low	0.6-2.0	strength expand.
Meadow Peak	Alluvial	ND	ND	0.6-2.0	Sanitary

Source: USDA, Soil Conservation Service.

Geology

The Thompson Chain of Lakes area, mapped by Willis Johns in 1960 (Montana Bureau of Mines and Geology, Bulletin 17), is underlain by the hard, brittle, slightly metamorphosed sedimentary rocks of the Precambrian Belt Group. The landscape has been largely sculpted by Pleistocene glaciation. The lakes occupy large, kettle-related depressions produced by abandoned, elongate glacial remnants in glacial moraine, outwash, and till.

Bedrock Geology: The bedrock of the Thompson Chain of Lakes area is Precambrian (Proterozoic) Missoula Group. Predominant local units are argillites and shales; limestones occur in the central part of the area, north of Middle and Lower Thompson lakes. Below 3400 feet in elevation, nearly all bedrock, except for roadcuts, is veneered by glacial deposits. Thus, little direct mapping of bedrock units was possible on TCL lands.

The oldest Belt Group rocks in the area are Wallace formation argillites and shales, with a thick section of interbedded dolomites. This formation underlies the Thompson Lakes, according to Johns (1960) and extrapolation from other geologic maps. The Striped Peak formation, mostly shale and quartzite, likely underlies the tills of Crystal Lake. The Libby formation, mostly

argillite with minor dolomite, underlies Loon, Horseshoe, and other lakes in the NW end of the chain. The Libby formation lithologies in the Thompson Chain of Lakes area are most similar to the lower Libby formation. It is argillite, mostly white or red, with minor laminated dolomite, especially toward the west end of the area. Unnamed, tan, Cambrian dolomite, mapped in Wallace quadrangle to the south, may also appear in the Thompson Chain of Lakes area, thinly overlying the Belt Group.

Igneous rocks are not recorded in the immediate Thompson Chain of Lakes area. Alkaline intrusives, specifically pyroxenite and syenites, occur northwest of the area. These, along with mineralization along faults related to Cretaceous and later deformation and intrusion, are probably responsible for scheelite and other economic deposits north and west of Thompson Chain of Lakes. In the immediate Thompson Chain of Lakes area, one placer claim and two small "hard rock" lode mines are present. Mining activity and mineralization have no noticeable effect on the hydrology of Thompson Chain of Lakes.

Structure: The folding scheme in the Thompson Chain of Lakes valley is poorly defined. Thompson Lakes may lie in broad, wrinkled syncline, in a younging-westward sequence that dips gradually (20-40 degrees) west. This syncline, mapped by Willis Johns, (Montana Bureau of Mines and Geology, Bulletin 17, 1960) is a small feature. Regionally, the predominant dip is WSW. Thus, the dominant recharge area for Thompson Lakes and Loon-Horseshoe is the ridgetops northeast of the lakes.

Thompson Pass fault and Placer Creek fault 40 miles south of the Thompson Chain of Lakes mark the Montana-Idaho lineament, a major feature unrelated to the Thompson Chain of Lakes. Northward joints, faults and thrusts trend NW-SE regionally with other, possibly younger joint sets and faults trending N.E. according to the Montana Bureau of Mines map of the Wallace 2 degree sheet. Regionally, these structures, which transect the brittle rocks of the Belt Group on all scales from meter-wide gouge zones to micro-fractures less than a micron in width, may serve as conduits or aquifers of ground water.

No active faults are known in the Thompson Chain of Lakes area, according to the Montana Bureau of Mines map of Western Montana Quaternary Faults. However, quarter-mile offsets of large-scale units (Wallace formation, Striped Peak formation, and Libby formation) in the Thompson Chain of Lakes area indicate that old, possibly Cretaceous to early Tertiary, faults are present in bedrock beneath the Thompson Lakes and the Loon-Horseshoe lake area (Johns, 1960). The Pine Creek-Thompson Lakes fault is mapped along the axis of the Thompson Lakes, then swings just north of Crystal Lake and NW near Wabumo Creek, offsetting the Libby group and Striped Peak formation.

The Thompson Lakes fault, mapped by Johns, (1960) is not shown as active structure on map of Western Montana Quaternary Faults. There is no apparent active seismicity locally. Boiling Springs, south of Middle Thompson Lake and the source of water in Boiling Springs Creek, is an active spring, but it is not a geothermal spring according to surface water temperatures.

Lack of geothermal activity supports the assumption of no seismicity in the Thompson Chain of Lakes area and the inactive status of the Thompson Lakes and related faults.

Aerial photo based mapping shows structure generally is NE-dipping beds of argillite and claystone north of McGregor lake. Dips are estimated at 20 degrees NNE. North of Loon and Horseshoe lakes, structure dips steeply, approximately 20 degrees SSE. General structure through the Thompson Chain of Lakes area seems to be a faulted anticline-syncline sequence, with Loon, Horseshoe, and Crystal lakes in a small, localized syncline, McGregor in the axis of an eroded anticline, and Thompson Lakes in the hinge between.

Glaciation and Glacial Materials: Glaciation scoured out the Thompson Chain of Lakes basin, probably leaving the larger lakes scoured into bedrock bottoms and expressed and contained within morainal gravels. The smaller, shallower lakes are "perched" kettle lakes that bottom in gravel. A major recessional moraine ridge west of Loon Lake ends the Thompson Chain of Lakes. Numerous dry "kettles" dot the moraine surface.

Unsorted glacial tills with relatively low clay content and high sand-size fraction are the common parent material of many soils. Drift, ground moraine, lateral moraine, and end moraine are included in the glacial materials. Bedded glacial sediments occur in roadcuts between McGregor Lake and Lower Thompson Lake, and are exposed in one high roadcut. These coarse, poorly sorted sediments may be relics of outwash or other drainage from the glacier that occupied McGregor Lake's basin, or they may have been deposited by post-Wisconsin outwash. Sediment from a glacial lake is located up to the 3,500 ft. elevation on hills surrounding Thompson Chain of Lakes. This sediment includes a sequence of 12 or more "rythymite"-type sediments exposed along Highway 2 near Middle Thompson Lake. These sediments may be related to local events, or they may be relics of the connection of the Thompson Chain of Lakes "system" with the Missoula floods.

The high embankment that contains Thompson Chain of Lakes, and especially Loon, Horseshoe, and Crystal lakes from the Fisher River drainage, is glacial end moraine. A glacially carved, bedrock riegel or "step" may underlie this moraine deposit. This area may have been coincident with a poorly jointed portion of the Libby Formation, which resisted erosion.

Implications for Ground Water Flow: Ground water movement through the unsorted glacial till that occupies much of the Thompson Chain of Lakes basin is difficult to predict and may be locally complex. Generally, hydraulic gradients of groundwater movement should follow the paths of the glacial drainage and the present stream system, but it is difficult to predict the exact path of water within sub-basins such as Loon-Leon-Horseshoe lakes. Groundwater recharge from precipitation into tills in the tills would occur at elevations no higher than 3,500 feet, the upper limit of glacial gravel. Runoff and streamflow are also sources of glacial gravel recharge.

Primary conduits for deep ground water circulation are probably the NW-trending faults and fractures, as well as flow along bedding planes. Recharge into these structures may come from valleys or higher elevations situated a long distance away. For example, the Pine Creek-

Thompson Lakes fault, which runs through the Thompson Lakes, (Lower, Middle, Upper) probably recharges deep structures and tills, providing spring inlets to the center-floors of these three lakes. The north end of Crystal Lake may receive recharge from the nearby intersection of the Pine Creek-Thompson Lake fault and other small, un-named structures. Ground water, especially water moving through soluble, fractured carbonates, probably also moves into the lakes from higher elevations north of Thompson Chain of Lakes. The sequence of lakes may also receive relative local, highland-derived recharge through the synclinal structure that channels water toward the center of the system. Thus, Crystal Lake may benefit from three different water sources (see Figure 14).

Figure 14. Summary of Groundwater Recharge

Lakes	Gravels	NW Faults	P-TL Fault	Loon Fault	Bedding
Crystal	X	x	X	X	x
Horseshoe	X	X	-	X	x
Leon	X	-	-	x	-
Loon	x	x	-	X	-
McGregor	x	X	-	-	-
Upper TH	X	x	X	-	X
Middle TH	x	x	X	-	X
Lower TH	x	x	X	-	x

NOTE: Small x indicates minor recharge; large X indicates major recharge source.

Water Resources

Protection of water resources and the ecosystem should be preeminent in any land use strategy, for these are the fundamental building blocks of a healthy environment. A healthy lake system is paramount to quality recreational experiences.

Human use of the Thompson Chain of Lakes area will increase in the future. With more people camping, using roads, and building dwellings, increasing demand on water resources will occur. Consequently, an increase in human waste, sedimentation, chemical, and/or thermal pollution will impact water quality. Water quality in several lakes is of concern. Lower water quality and lack of management may degrade the fish stocks, adversely affect wildlife, threaten residential water supplies, and ultimately degrade all recreational use. Continued monitoring can provide the basis for management direction, and is needed to preserve this valuable resource (see Figure 15).

Fisheries, wildlife, human recreation, and in many cases, domestic water supplies of residences around the lakes are dependent upon water quality. While adequate data is not available to make specific predictions, based on previous and current testing, land use activities may be impacting water quality in the Thompson Chain of Lakes. According to current data, Lower Upper and Middle Upper Thompson are in eutrophic or near-eutrophic condition (see Figure 15). Highly productive fisheries can live in eutrophic lakes, but there will be die offs during periods of algae decay, especially if blue green algae is to bloom. These heavy blooms will not occur every year, but will occur periodically.

Water supply to the Thompson Chain of Lakes follows complex paths. Although the majority of recharge is by groundwater flow, several surfical streams provide water to the system. These include: 1) Boiling Springs Creek into Lower Thompson; 2) Slimmer, Davis and Tuld creeks into Middle Thompson Lake; 3) unnamed intermittent streams into Eli and Upper Thompson Lake; and 4) the Pleasant Valley Fisher River into and out of Loon Lake and through Little Loon. Although no attempt was made to measure and develop a hydrologic budget for Thompson Chain of Lakes as part of this Environmental Assessment, it seems that the discharge of the lakes is greater than inflow from surface flow. Much water of the lakes is recharged by groundwater flow through deep gravels and dipping bedrock as well as other geologic structures.

The Thompson Chain of Lakes are glacial kettles, developed in bedded and unbedded gravels of moraine and outwash during the last retreat of Pleistocene alpine glaciers in Montana about 12,000 to 10,000 years ago. Loon Lake is dammed by a glacial end moraine. The moraine is composed largely of unsorted gravels. Small "kettle" depressions created by ice abandoned as the glacier melted back, are found in the moraine debris west of Loon Lake. While many small lakes are shallow and fill seasonally, the larger lakes of the chain exceed 100 feet in depth. These deeper, larger lakes were formed by a combination of glacial scour and ice abandonment. They may derive substantial inflow through the glacial gravels, and may also bottom in bedrock, tapping additional geologic structures for their water supply. Water from these lakes could percolate through gravels to fill small lakes like Rainbow Lake, Bootjack Lake, and to a lesser degree, Horseshoe Lake. This water also may charge the gravel aquifers in the groundwater table which may be the source of most domestic well water in the area. Due to complex water sources and movements, hydrology of the lakes can be divided into four "units" or subsections. These are:

1. Big Rainbow Lake, Crystal, Bootjack, Cibid, Cad, Horseshoe, and Leon, with no apparent surface inlet or discharge;
2. Loon and Little Loon, with inlet and outlet of the Pleasant Valley Fisher River.
3. McGregor and Little McGregor that discharge into the Thompson River from the east.
4. The Thompson Lakes (Upper, Middle and Lower) and Little Rainbow, that discharge into the Thompson River from the west.

Crystal, Horseshoe and Leon Lakes: Crystal, Horseshoe, and Leon Lakes have no observable surface inlets and no surface outlets. They are spring and groundwater fed. Crystal may derive water from the bedrock intersection of the Pine Creek-Thompson Lakes fault and from water

flowing through carbonates from the north. This recharge route may be indicated by the water quality information. The water of Crystal Lake has a very high conductance and is the hardest water of all the lakes. These properties indicate the presence of Ca and Mg cations in the water, with flow through bedrock (and perhaps residence time in carbonate-rich gravels) are the reason for high Mg and Ca. All three lakes are sinks: what goes in does not get out but is recycled and utilized within the lake.

Crystal Lake is heavily developed with summer and year-round homes on over half of its shoreline. The water quality reflects the impact of use and year-round septic drainage. Its 1984 data show high levels of total N, 0.8 milligrams/liter, of which 63 percent is in the form of ammonia (NH3).

Ammonia and high N content exist in this lake. Ammonia is the form of nitrogen most readily available for plant uptake. Ammonia concentrations could support phytoplankton blooms in this lake. During 1984, phosphorus content was low. It is a limiting factor in blooms and has probably increased in the last decade as human activities have increased. Although Crystal Lake would properly be classified as "mesotrophic", the addition of phosphorous to lake waters could result in major "blooms" and eutrophication.

Horseshoe Lake is heavily used as a site for boating, and camping. Much of the lake bottom, which is 40 feet deeper than adjacent Leon Lake, is light colored lacustrine clays and silts. The 1981 study showed good water quality at this lake, with a clarity depth on secchi disk of 30 feet. Horseshoe Lake harbors a phytoplankton layer at 38-45 foot depth. This layer could expand and move higher in the water profile. Any increase in phosphorous or nitrogen through natural nutrients, human or other use could lower water quality at Horseshoe Lake by increasing nutrients and dead plant matter--and ultimately decreasing dissolved oxygen and water clarity. There appears to be no flushing mechanism to remove nutrients from the lake or bring fresh water in. Thus, increase in N or P in lake waters could trigger a quick phytoplankton response.

Leon Lake is a small water body with one boat ramp and one camping site, Its water clarity is good; the 1981 data collected by University of Montana project show a secchi disk depth of 11 feet; the reading in August, 1992 was 16 feet. The profile shows a definite change in dissolved oxygen (DO) at about 27 feet, with DO dropping to zero at 27 feet. This shows a change to respiration and no oxygen being produced. There is a four foot thick muck layer, on the bottom of this lake with much decaying organics. Fish and other aquatic animal life could not persist in the anaerobic (oxygen-depleted) conditions at the lake bottom. Leon Lake could become completely anaerobic during extended periods of snow and ice cover. There is already some eutrophism.

Figure 15. Lake Water Quality, August, 1992

LAKE	Dissolved Oxygen 1 ppm	pH (acidity) 2	Specific cond. 3	Hardness 4	Surface Water Temperature F	Secchi Disk Reading Ft
Crystal	---	8.1	90	158	75	---
Horseshoe	10.3	8.3	80	95	70	13 ft
Leon	10.4	8.2	75	110	70	16 ft
Little Loon	11.5	8.3	70	65	70	---
Loon	10.5	8.2	50	60	77	---
Little McGregor	9.5	7.4	25	25	70	---
McGregor	9.5	7.1	25	30	66	---
U Upper Thompson	11.0	8.3	85	135	70	13 ft
M Upper Thompson	8.0	8.4	80	121	73	13 ft
L Upper Thompson	8.0	8.3	85	135	72	13 ft
Mid. Thompson	11.5	8.4	85	135	72	algae
Lower Thompson	12.0	8.0	90	135	70	algae

NOTES:

1. Dissolved Oxygen: Dissolved oxygen, in parts per mil. Dissolved oxygen is necessary for fish and other aquatic life. Values above 9 parts per mil are considered healthy. 4 ppm is considered the lower limit to avoid trout stress and mortality. Dissolved oxygen is produced by photosynthetic aquatic plants and also by water turbulence.
2. pH: measure of acidity. "Neutral" lake water has a pH of 7. Most natural lakes range from 6 to 6.5. Acidity of 8 indicates alkaline waters, probably effected by dissolved limestone ($CaCO3$).
3. Specific conductivity. Measure of dissolved electrolytes, such as sodium chloride (salt), sodium sulfate, calcium hydroxide, and sulfuric acid. Acceptable levels for native fish are generally below about 80.
4. Hardness: measure of calcium, magnesium, and iron dissolved in water. Calcium and magnesium leach out of limestones and into groundwater.
5. Temperature. Generally, trout are stressed at water temperatures above 68 F, mortality can occur above 72° F.
6. Secchi disk. A disk of standard size and pattern, lowered into water to determine water clarity or turbidity. In clear water, with little suspended clay , algae, or other organic matter, a secchi disk will be visible at depths greater than 26 feet.

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Little Loon and Loon Lakes: The Loon Lakes are supplied with water by the Pleasant Valley Fork of the Fisher River that drains a large area of Pleasant Valley to the north. Loon Lake is deep (up to 114 feet) and both Loon and Little Loon have a mucky bottom. Their inlet areas are shallow and contain a dense growth of by wetland vegetation and aquatic plants.

The geology of this area may include a small down-fold or syncline that acts as a subsurface watershed divide. This structure in the Libby formation, silica-rich argillite contains water in the Horseshoe-Leon-Cibid system, and separates Loon and Little Loon. Loon and Little Loon are part of the Fisher River drainage. These lakes drain to the west, opposite to the drainage of Upper, Middle and Lower Thompson Lakes. The water quality in Loon and Little Loon is different in that it has a low specific conductivity and lower hardness. This chemical difference reflects the higher percentage of surface runoff entering the system compared to the groundwater flow into the other lakes.

Surface water temperatures are seasonally high in these lakes. A temperature of 77 degrees, measured on August 15, 1992, is well above the preferred range for coldwater fish and trout and other species may retreat into deeper water. The high water temperatures and associated stress may account for the reported flukes and bacterial problems with cold water species in this lake. The Clean Lake study in 1981 by the University of Montana shows some profile information on Loon Lake. At 6 meters there is a definite break in the biological profile. The secchi disk, a gauge of water clarity, indicated a rapid decrease in light penetration at 4 meters. Below this, water temperature and dissolved oxygen drops quickly. These data may indicate that there is a layer or bloom on the top layer that is not permitting light penetration and photosynthesis to occur below this level. Under these circumstances respiration could progress, allowing more and more carbon dioxide production with a reduced photosynthetic process to reclaim it into oxygen. It appears that eutrophic conditions may be developing.

Little McGregor Lakes and McGregor: These lakes are in a different geology, east of the Pine Creek Fault system and with bedrock groundwater recharge primarily through silica-rich argillites of the Wallace Formation, Belt Group. The water quality shows the lack of carbonate, with specific conductance and hardness very low. McGregor Lake is the largest of the lakes in the Conservation Fund lands.

Little McGregor Lake, the most pristine of the larger lakes, exhibits good water quality. However, it is a sink, with no outlet. Water quality could degrade rapidly from effects of land use activities since the lake has no buffering capacity.

McGregor Lake differs from the other lakes. It has inlets from several streams and an outlet that flows west to the Thompson River. Water quality is good; the lake has not approached a eutrophic state. The temperature is low. Secchi disk depth was 8 meters (28 feet) in the 1984 study and probably has not changed appreciably. The lake profile and history show no algal blooms or other problems. The dissolved oxygen is constant, top to bottom.

Thompson Lakes: The Thompson Lakes are in line with the Thompson Lakes-Pine Creek fault system (see geology section), and are recharged through streams and groundwater flow, primarily from the north. The bedrock aquifer is Wallace formation carbonate, primarily dolomite. Thompson Lakes discharge to the south, opposite the direction of probable groundwater flow from Horseshoe, Leon, Crystal, and other lakes.

Upper Thompson Lake was classed as eutrophic in a 1984 University of Montana study. Eutrophic lakes are very productive until algal blooms become toxic or lack dissolved oxygen during decay of blooms. They will grow big fish, especially bass and perch that can stand low oxygen and high temperatures - trout will die off. Eutrophication is caused by the input of organic material and nutrients including human and animal organic wastes, ammonia, and decaying plant or algal material.

Upper Thompson Lake may degrade under present use patterns. The ammonia level is very high at a level of 1.3 milligrams/liter. Water temperature is high, reflecting the shallow character of the lake and lack of vigorous inflow and outflow. The high pH (8.3) reflects recharge through dolomite (carbonate) bedrock. The high pH and warm water make ammonia toxicity a real threat to the upper lake.

Middle and Lower Thompson Lakes both have deep "holes" and are highly productive fisheries. However, compared to other lakes in the chain, they showed a marked blue-green color and algal population when observed in August, 1992. There was no profile information for these lakes. The 1984 study found low nitrogen and phosphorus in Middle Thompson Lake and slightly higher levels in Lower Thompson. However, this one-time measurement may not reflect conditions today. The lower lake showed a higher ppm of ammonia, which may indicate pollution. The lakes' distinctive blue-green color in August, 1992 was probably related to algal growth and/or late-season turnover. These lakes may exhibit spring or early summer algal blooms that also affect water quality and aquatic life.

Vegetation

The Thompson Chain of Lakes lies in a forested basin at an elevation of approximately 3,340 feet. The soils are either wet, poorly drained types, or excessively drained; friable (dusty) glacially and alluvially-derived material. The vegetation in this area is adapted to either wet soils and marshy conditions or dry gravels that may be shallow to water table. Forest and marsh vegetation dominate.

Forest Resources: There is no intact old growth forest within TCL, but several areas contain large mature trees and snags. The Thompson Chain of Lakes area is currently dominated by ponderosa pine and western larch forests, with lesser amounts of Douglas fir and other species. Timber management activities have been conducted over much of the area, focusing on harvest of mature and over-mature sawtimber as well as the salvage of extensive stands of lodgepole pine which were killed by mountain pine beetle infestations during the last decade. Understory trees were protected when possible during logging operations and many regeneration cuts were

planted with ponderosa pine and western larch. Selective timer harvest methods have been used in most timber stands adjacent to Highway 2 and within the immediate foreground of most lakes. More intensive regeneration harvest systems were common in less visually sensitive areas. Much of the area contains productive timber growing sites throughout the gentle topographic relief.

The visual landscape varies considerably within the area, having been altered through 80 years of timber management activity. Views along Highway 2 and vistas from the individual lakes typically include forested settings in the foreground, with backdrops of the Cabinet mountains to the west. In several areas, obvious and significant visual changes have occurred during the past decade because of: 1) A large wildfire which devastated some 13,000 acres of forested land adjacent to Highway 2 just west of Loon Lake; 2) heavy mortality in the dense lodgepole pine timber stands throughout the entire area caused by the mountain pine beetle epidemic (estimated 50-90 percent loss of mature lodgepole pine timber); and 3) due to extensive timber salvage operations designed to recover damaged timber and restore productivity to stands devastated by fire and insects.

From a distance, the vegetative cover in the Houghton Creek wildfire area west of the TCL appears to be very light, but the burned area has been regenerated through natural seeding as well as through planting of ponderosa pine, western larch and several other species. Similarly, the large cutting blocks just south of McGregor Lake were designed to salvage extensive stands of dead lodgepole pine timber, and now are well regenerated with young seedlings that will grow into healthy forests for the future. In fact, the current McGregor Lake Campground was in the middle of a dense stand of lodgepole pine that was killed by the insect infestation in the mid-eighties. Dead timber was salvaged and the area planted to a variety of tree species to address user safety concerns and meet visual quality objectives for the future.

Timber company records indicate that larch and ponderosa pine logged in the 1950's and 1960's were generally 20 to 24" in diameter and characterized as 300 years old. Pre-commercial thinning of trees up to 2" in diameter, estimated at 8 to 10 years old, was a common practice. Clear cutting practices, as documented in the 1960's, prescribed removal of all merchantable timber, followed by prescribed burning of unmerchantable material. Species removed in clear-cutting varied from site to site, but typical mixes cut on west-facing slopes north of Thompson Lakes in the 1960s were 15 percent ponderosa pine, 35 percent Douglas fir, and 50 percent western larch, with minor amounts of lodgepole pine (1 percent), spruce (2 percent), white pine, and western fir. As much as 20,000 board feet/acre were harvested in these clearcuts. Clear cutting has also been practiced around Thompson Chain of Lakes, but--except for McGregor Lake--was not prescribed directly on lakeshores. Logged sites were often regenerated naturally. Thirty understory trees were retained on many productive sites and large areas were replanted with ponderosa pine, (which often had a local Thompson Lakes seed source), and western larch (with seed sources from the Flathead Lake area). Since the 1960's the area has been managed using less intensive silvicultural prescriptions, including shelterwood and selection harvest practices. The forest stands are being reestablished through natural regeneration.

Figure 16. Much of the Thompson Chain of Lakes Area is heavily forested.

Champion has practiced commercial thinning and selection logging on its property adjacent to the lakes. Records of logging and thinning on slopes north of Middle Thompson Lake indicate that species cut were of 37 percent western larch, 36 percent ponderosa pine, and 18 percent Douglas fir on 20 percent slopes immediately above the lake, according to a stand inventory done in 1987. Trace species harvested included white fir, grand fir, lodgepole pine, western hemlock, and western white pine. Other cuts and inventories show similar stands and practices on flatter slopes. Selection logging typically removed 5,000 to 15,000 board-feet/acre in this area, with diameter limits on Engelmann spruce. Thrifty understory trees were retained on site to complement regeneration efforts in many areas. Such areas are recommended for future shelterwood cuts. Old, or old-second growth ponderosa pine and larch, and other mature trees in these areas, have diameters up to 24 inches. Snags as well as seed trees are present in these selectively logged stands. A good example of these practices is found at the west end of Loon Lake, a place popular as a campground for fishermen.

Present forest species mixtures are similar to the recorded cut species, although ponderosa pine and western larch predominate in planted upland cuts. The forested valleys of the Pleasant Valley-Fisher River and Thompson River drainages have lodgepole pine as a major component of the stand. Fire history and frost pockets favor lodgepole pine establishment as a seral species. The general area around the Thompson Chain of Lakes is Douglas fir habitat type. The drier aspects of this type may have a higher occurrence of ponderosa pine and the wetter aspects have a higher occurrence of western larch. Any lodgepole which occurs in the TCL is the result of natural regeneration of the species in Douglas fir habitats. The climax condition of this habitat type could include all four of the above species with Douglas fir, western larch and ponderosa pine as dominants. Fire, which has occurred with greater frequency in the past, has contributed to the establishment of lodgepole pine as has some clear-cutting in lower elevations. In many instances the lodgepole pine becomes a cover crop through which the other species may become established. Western white pine and western hemlock are only lightly represented in the area.

Grasses, Forbs, and Shrubs: The grass species vary with location, overstory, and available moisture. Grasses and forbs found in the Thompson Chain of Lakes proposed project area are similar to plant communities of the western Rocky Mountain region. Adjacent to the lakes and on the flat areas along roads, Kentucky bluegrass (Poa pratense) dominates. Bluebunch wheatgrass (Agropyron spicatum) remnants are also present in open areas on south and west-facing exposures. Large wild rye grass borders some wetland areas. Idaho fescue (Festuca idahoensis) is present in a few north-facing, open sites but is uncommon. Other native species include foxtail barley, bottlebrush squirreltail, and Sandberg bluegrass. Understory grasses, in communities beneath forest canopy, are dominated by pinegrass (Calamagrostis rubescens). Cheatgrass (Bromus tectorum) is widespread and well established ground cover throughout the area.

Forbs in the area include arrowleaf balsamroot (Balsamorhiza sagitata), mulesears (Wyethia amplexicaulis), goldenrod, goldenaster, and other common plants. Tansymustard (Descurainia pinnata) is widespread along roadways and logged areas. Other woody shrubs occurring in the

area include bitterbrush (Purshia tridentata) and russet buffaloberry (Sheperdia canadensis) at higher elevations on dry, bed-rock derived soils and rabbitbrush (Chrysothamnus viscidiflorus) kinnikinnick (Arctostaphylos uva-ursi) and Oregon grape (Berberis nervosa) present at lower elevations.

Shrubs and small woodland vegetation include Dwarf Huckleberry communities (Vaccinium caespitosum) and Twinflower (Linnaea borealis). Serviceberry (Amelanchier alnifolia), chokecherry (Prunus virginianna), wild rose (Rosa), Spiraea (Spiraea betufolia), and bearberry (Arctostaphylos) provide food for wildlife. Flowering plants within woodland communities include fireweed (Epilobium angustifolium), arnica (Arnica cordifolia), and Fairy-bell (Disporum).

Wetlands: The wet soils and wetlands of the Thompson Chain of Lakes areas sustains both forest and marshlands vegetation. The forest/tree species located in wet areas are now dominated by aspen. A mile-long aspen grove occupies a high water table area south of upper Thompson Lake. Cottonwoods and the more common species of willow also grow along marshy areas.

Most wetlands and riparian areas in Thompson Chain of Lakes form a thin band between lake and forest. They contain cattails, rushes, and sedges as well as cottonwoods, willows, and a variety of shrubs. Wetlands provide important nesting habitat or and cover for loons, bitterns, grebes, marsh wrens, ducks, and geese. Wetlands are also fish-rearing habitat. Several sensitive or threatened plants in Montana are known to occur in the Kootenai National Forest and adjacent areas. An inventory of shrubs, woody marshlands vegetation and aquatic plants is beyond the scope of this report. A "normal" complement of cattails, reeds, and other aquatic plants appears to be present.

Threatened, Endangered, or Sensitive (TES) Plants

No threatened or endangered plant species have been located on the Kootenai National Forest. However, TCL contains wetlands and uplands habitat suitable for a number of threatened, endangered, and sensitive plant species. Twenty-four plant species listed as sensitive may be present in the Kootenai National Forest. No survey for TES plants was conducted for this Environmental Assessment or has been conducted in the area. A brief list of those plants most likely to be found is shown below. A comprehensive list of western Montana TES plants is available from the county extension officer.

Threatened, Endangered, or Sensitive Plants

PLANT SPECIES	*STATUS*	*HABITAT*
Water howellia (Howellia aquatilis)	*E*	*kettles*
Fringed onion (Allium fibrillum)	*S*	*moist soils*
Bog birch (Betula pumila)	*S*	*bogs*
Clustered ladyslipper (Cypripedium fasciculatum)	*T*	*moist forest*
Giant helleborine (Epipactis gigantea)	*T*	*lake margins*
Adders tongue (Ophioglossum vulgatum)	*S*	*gravel marsh*

Noxious Weeds: Noxious weeds, or non-native plants detrimental to native plant communities, are an almost overwhelming problem throughout Montana. Spotted knapweed is particularly robust in the Thompson Chain of Lakes area, with St. Johnswort (goatweed) and Canada thistle also being present. Wetlands are vulnerable to invasion by purple loosestrife, that destroys wildlife habitat. Other noxious weeds, including leafy spurge, and dalmatian toadflax threaten invasion. Several other noxious weeds which were not noticed in the area during the preparation of this report, (leafy spurge, purple loosestrife, dalmatian toadflax, yellow starthistle, and tansy ragwort) are poised for invasion according to the Lincoln County Noxious Weed Management Plan and may be detected by a survey. Early detection and control are essential for weed management. Spotted knapweed is the only "problem" weed with a major foothold in the area.

Noxious weeds identified on conservation fund land include:

PLANT	PROBLEM
Spotted knapweed (Centaurea diffusa)	unpalatable; soil toxin
Canada thistle (Cirsium arbense)	unpalatable; thorns
Goatweed (Hypericum perforatum)	toxic

Fish and Wildlife

Fisheries: Sport fishing is a major recreational attraction at Thompson Chain of Lakes. Lakes have been stocked by Montana Department of Fish Wildlife and Parks with a variety of game fish. Some unauthorized introduction of northern pike by private parties has also occurred. Fish stocking has provided an excellent sport fishery but there are fewer native fish, such as cutthroat trout. The fish resource is beneficial to fish-eating birds including bald eagles, osprey, loons, and herons. Several fishing tournaments occur each year on these lakes.

Native fish populations have been largely displaced by stocked populations of rainbow trout, lake trout, bass, kokanee, and northern pike. The recent (1980's) unauthorized introduction of northern pike into Upper Thompson Lake is of serious concern to future fisheries due to the predatory character of pike. These fish have migrated into Middle Thompson and Eli Lake, and possibly into Lower Thompson and Little Rainbow Lakes. Stocked fish populations have been repeatedly "upgraded" with re-introductions and restocking. The introduction of Kokanee into Middle Thompson Lake in 1951 appears to have been successful and self-sustaining. Health problems have also affected stocked populations.

Figure 17 shows fish recovered in FWP experimental gill nets, September 15 and 16, 1992, in most lakes in Thompson Chain of Lakes. A species distribution list is available from FWP.

Disease and other problems have plagued fish populations. Bass in Little Loon lake were heavily infested with flukes in 1988 , and a fish kill is recorded in Lavon Lake in the same year due to "bacterial infection." Middle Thompson Lake has also suffered periodic fish kills of bass and perch. Control of "rough" fish has been attained through poisoning with rotenone to kill "predator" fish species and "rehabilitate" the lake by stocking with trout, kokanee, or bass. Complete rehabilitation histories are available from FWP. Populations of native species, including bull trout and cutthroat that are now listed as sensitive or threatened are in the Thompson River, with access to Thompson Lakes. These populations are declining as introduced species dominate available habitat.

A Fisheries Management Plan for The Thompson Chain of Lakes area is being developed separately, and is beyond the scope of this document. Planting records of past plants are available from FWP.

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Figure 17. Fish Populations from FWP NET CATCHES, SEPTEMBER, 1992

LAKE	BB	CS	CT	EB	KO	LB	LT	NP	PM	PS	RB	SB	SQ	WF	YP
Bootjack			9								17				
Cad			5								24				
Cibid										16	5				
Horseshoe		19									4		69		
Loon		13	23			2			76	3		6	90	4	
L McGregor			7	3							27				126
McGregor				2			15				5			18	15
Rainbow											15				84
Topless	10									35	1				
U Thompson					1			9		51			1		69
L Thompson					1					3	1		28		224

Species abbreviations:

BB Black Bullhead	CS Coarsescale Sucker	CT Cutthroat Trout
EB Brook Trout	KO Kokanee	LB Largemouth Bass
LT Lake Trout	NP Northern Pike	PM Peamouth
PS Pumpkin Seed	RB Rainbow Trout	SB Smallmouth Bass
SQ Northern Squawfish	WF Mountain Whitefish	YP Yellow Perch

Wildlife: The Thompson Chain of Lakes encompasses a variety of wildlife habitats including forests, wetlands, and aquatic environments. There is a great diversity of wildlife in this area. Three hundred sixty species are known to occur in the adjacent Flathead National Forest. Several uncommon wildlife species including bald eagles, loons, goshawks, and ospreys roost and breed in this area. Wildlife viewing opportunities are outstanding throughout the year.

Although there is no intact old growth forest within the Chain of Lakes, several areas contain large mature trees and snags. These areas provide important nesting and roosting habitat for great blue herons and raptors including bald eagles, ospreys, and goshawks; as well as for cavity nesting birds like pileated woodpeckers, saw-whet owls, chickadees, nuthatches, and wrens; and furbearers such as pine martens. The Kootenai National Forest has two designated old growth stands on the south side of McGregor Lake.

Big Game Much of the land around the Chain of Lakes provides high value big game winter range. White-tailed deer are the most common big game species in the Thompson Chain of Lakes area, occupying lowlands below elevations of 3,400 feet. Mule deer live in adjacent forested uplands. A small population of Rocky Mountain elk winter in the area. Shiras moose occasionally travel through the area. The amount of big game thermal cover has decreased significantly due to logging in the area. Because in many areas the only thermal cover is the buffer strip left along the highway, deer are killed frequently by automobiles along Hwy 2 throughout the year; bald eagles that scavenge these roadkills also may be killed. Ice fishing activities occur in white-tailed deer winter range, but current recreation use levels have not impacted deer populations. Winter Ranges are shown in Figure 19.

The entire Chain of Lakes area is used by deer hunters from Kalispell and Libby. Most hunters do not stay overnight, but some hunters do camp at Thompson Chain of Lakes. Hunting is normally done outside of TCL, though some deer hunting occurs around Thompson Lakes, Crystal, Horseshoe, and Loon Lakes. Some elk hunting occurs north and south of the Thompson Chain of Lakes.

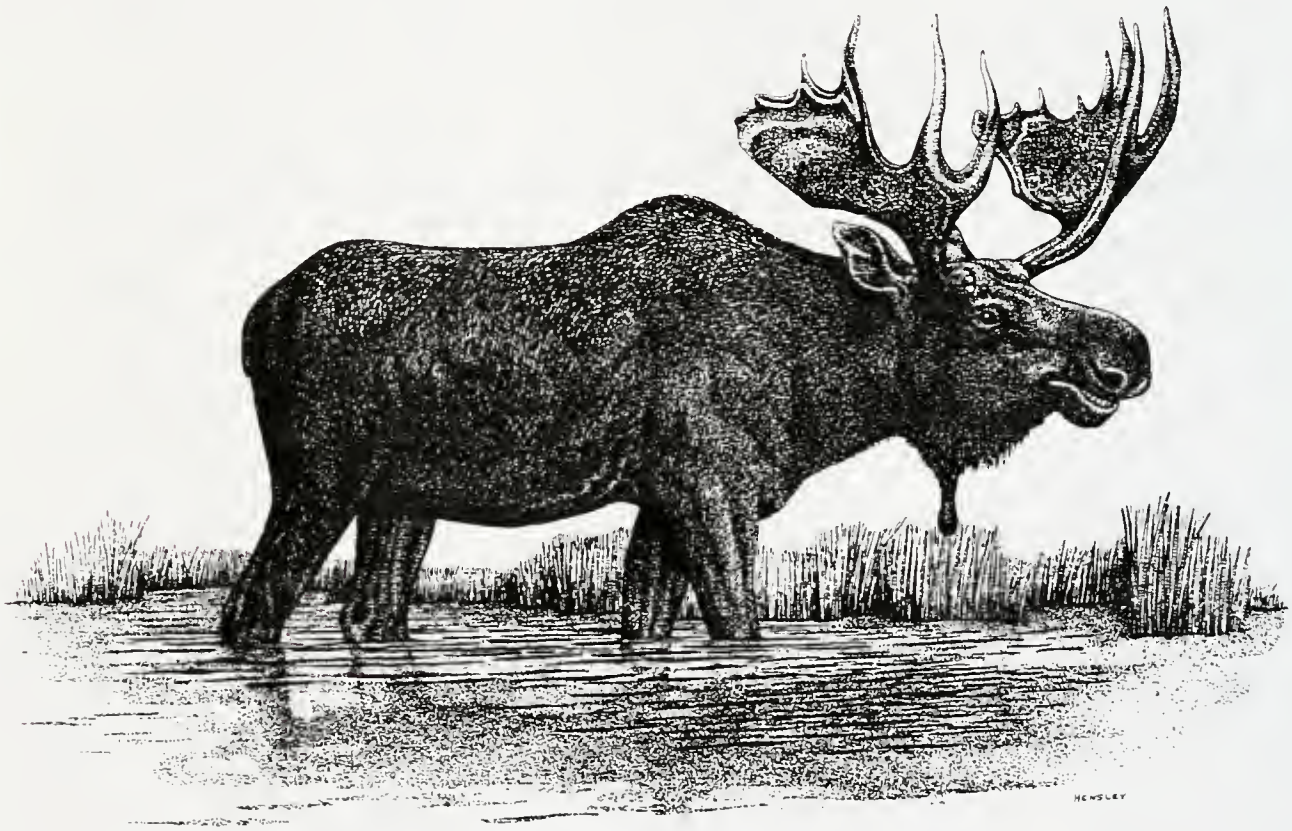

Figure 18. Shiras Moose

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Waterfowl A variety of waterfowl nest at Thompson Chain of Lakes. These birds include seven species of ducks, Canada geese, red necked grebes, and common loons. Goose nest boxes have been installed to encourage Canada goose nesting. Thompson Chain of lakes is not on a major waterfowl flyway, but is used as a resting area for migratory waterfowl in spring. Waterfowl hunting pressure is light. Hunted birds are mainly nonmigratory.

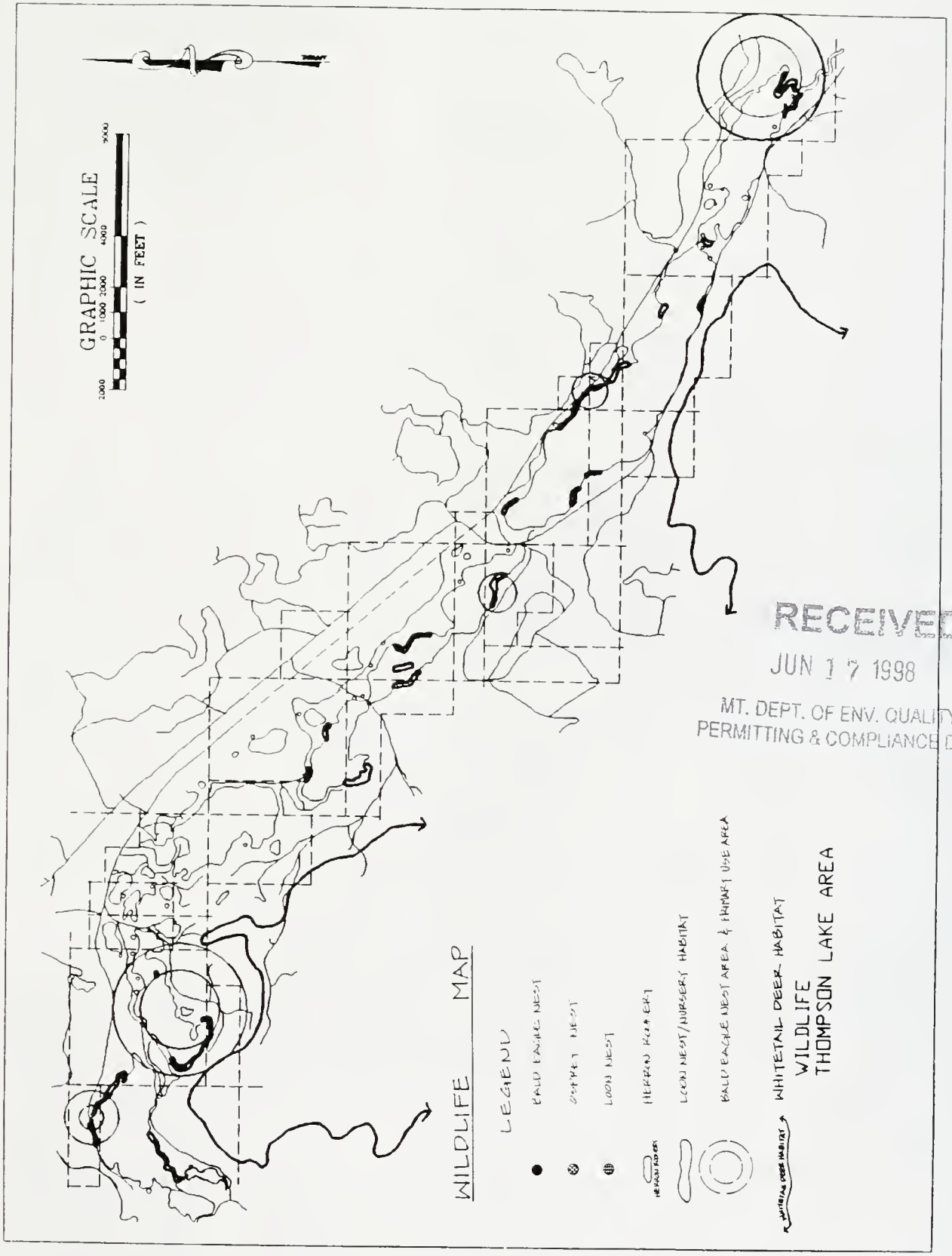
Forest Wildlife There is a diversity of forest habitats in the Thompson Chain of Lakes area due to different timber stand ages and structures resulting from variety of timber harvest treatments as well as different plant associations. Common forest mammals include skunks, coyotes, black bears, read squirrels, flying squirrels, rodents, and bats. Owls, hawks, hummingbirds, blackbirds, tanagers, finches, dark eyed junco, and song sparrow are among the many forest birds of the area.

Raptors and Other Birds Bird species have not been extensively inventoried at Thompson Chain of Lakes. Several species are worthy of noting as indicator species and are comparatively rare.

Pileated woodpeckers, while not listed as a threatened or endangered species, are recognized as becoming less common. Large second-growth timber stands and old-growth provide habitat for pileated woodpeckers. Active nest and feeding holes are present in the Thompson Chain of Lakes area on TCL lands.

Predatory birds, including owls, are also an important part of the Thompson Chain of Lakes ecosystem. Horned owls and screech owls have been noted in the area around Loon and

Figure 19. Winter Range Map



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Horseshoe lakes. Thompson Chain of Lakes also contains habitat amenable to goshawk, although no active goshawk nests have been identified in the area.

Wetland and Aquatic Wildlife Herpetological surveys have not been conducted in the Thompson Chain of Lakes area and the status and occurrence of most amphibians and reptiles of the area is unknown. Painted turtles, which have a localized distribution in Montana, are common along lakeshores in the Thompson Chain of Lakes. Few reptiles or amphibians were observed during field reconnaissance for this report.

Mammals including muskrats, mink, beavers, and raccoons can be found near wetland areas. The large number of old, abandoned lodges and dams, and small number of active sites, suggest that beaver populations may have declined significantly. Beaver populations are known to fluctuate naturally with available food supplies. Inactive beaver lodges, dams, and old "chew marks", estimated at 15 to 25 years old, are readily evident on most lakes including Cibid, Loon, and Lower Thompson where beaver are not now commonly sighted. A few trappers work the Thompson Chain of Lakes area.

Osprey nests are scattered throughout the Chain of Lakes, usually within a half mile of a lake. Some nests are in the vicinity of private homes and campsites, which others nests are far from human activity. Osprey nest in tall trees or snags. Fish are the most important component of their diet, and the birds may be an indication of the abundance or decline of native and other fish. Eight active osprey nests have been documented by consultants and by Montana Fish Wildlife and Parks. The birds are concentrated in the Thompson Lakes; six nests are clustered around Upper, Middle, and Lower Thompson Lakes.

Heron have maintained a rookery on Horseshoe Lake in the past. Although no active rookery is presently documented on the Thompson Chain of Lakes, the lakes provide suitable habitat for heron.

American bitterns, belted kingfishers, marsh wrens, swallows, and bald eagles are also associated with wetland environments. Kingfishers and bald eagles require perches on lakeshores, while marsh wrens and bitterns nest in wetlands.

Animal Species Threatened, Endangered, Sensitive or Requiring Supplemental Information Several threatened, endangered, and sensitive wildlife species live in or may pass through the Thompson Chain of Lakes area. The area is presently not included within the recovery zone of species other than the bald eagle. Figure 20 lists known species. A complete list of threatened, endangered, and sensitive plants and animals of the Kootenai National Forest is available at Forest Service Headquarters.

Figure 20. Threatened, Endangered, or Sensitive Animals

COMMON NAME	*SCIENTIFIC NAME*	*USFWS*	*USFS*
Bald eagle	*Haliaetus leucocephalus*	*E*	*E*
Gray wolf	*Canus lupis*	*E*	*E*
Grizzly bear	*Ursus arctos*	*T*	*T*
Common loon	*Gavia immer*	-	*S*

Threatened and Endangered Species:

1. Bald Eagle. With coniferous forests surrounding deep-water lakes, the Thompson Chain of Lakes area provides excellent habitat for Bald Eagles. Eagles often nest in large trees near water. Fish, the staple of the bald eagle summer diet, are abundant in the Thompson Chain of Lakes. Bald eagles are presently listed as an endangered species by the U.S. Fish and Wildlife Service. There is a nest on Horseshoe lake which has been active for three years, and a possible nest has been noted at the east end of Lower Thompson Lake. Bald eagles are thought to have been more widely distributed in Montana prior to the 1950's and early 1960's when extensive use of chemical pesticides reduced populations in known distribution areas.

A pair of bald eagles began nesting on Horseshoe Lake in 1990. According to reports, they raised at least one, and possible two young in 1990 and two young in 1991; the nest failed in 1992. Water skiing, fishing, camping, and picnicking occur within 1/2 mile of this bald eagle nest. There is currently no management of recreational activities or timing of use to provide protection for the nesting pair of eagles. The bald eagle population in Montana has been increasing in recent years. There is a spatial requirement for nesting Bald Eagles, so a limited number of additional nests could be established in the Chain of Lakes area if the population continues to grow.

Potential nest sites in the Thompson Chain of Lakes area are limited by the availability of very large trees or snags for nests. Only a few other sites in the chain have the large nest tree component essential for bald eagle nesting territories.

Surveys of juvenile, subadult and adult eagles in the last ten years have counted between 2 and 20 birds. In the fall these birds eat kokanee, and in winter they feed on road kills, and fish-remains from ice fishermen.

2. Gray Wolf. Wolf packs are expanding south from Canada into northwestern Montana. Wolf sightings have occasionally been reported in recent years in and around the Thompson Chain of Lakes. The wolf population will likely increase throughout northwestern Montana in the future. Wolves depend on ungulates and small mammals for a food source. Wolf habitat requirement will be met if there is adequate habitat for their big game prey base. The greatest threat to wolves is illegal killing. Recreational activities such as camping and fishing do not significantly affect wolf recovery unless they should occur in or near wolf denning and rendezvous sites. Wolf recovery will be successful if a healthy prey base can be maintained and illegal human-caused mortalities are prevented.

3. Grizzly Bear. There have been occasional grizzly bear sightings in the vicinity of Thompson Chain of Lakes; however, TCL is not within a designated recovery area (Bear Management Unit). While the area could be used by a grizzly, the potential for bear/human interaction is high - making the area unsuitable for consideration as grizzly habitat.

Sensitive Species: Common Loons have been designated a "sensitive species" by the Montana Department of Fish, Wildlife and Parks. Nesting loons have established territories and have nested on some of the Thompson Lakes. Common loons nest in rushes and cattails along the shorelines of the lakes. Most lakes contain only one territorial pair. Current territories occur on Loon Lake, Upper Thompson Lake, and Middle Thompson Lake. Old nesting sites include Horseshoe Lake, Lower Thompson Lake, and McGregor Lake. Other lakes with potential for loons include Crystal Lake, Leon Lake, and Little McGregor. Reproduction is low, with only 1-2 pairs raising 1 or 2 chicks each year and other pairs not reproducing at all. Incubating loons are extremely sensitive to all human activity, including boating, fishing, and camping, within 150 yards of a nest. Educational materials on protecting loons have not been made available at campgrounds and boat ramps, and there are currently no restrictions on boating in nesting areas. The loon population is monitored annually by volunteers.

Species Requiring Supplemental Information: Great Blue Herons have been designated by the Montana Department of Fish, Wildlife and Parks as a "species requiring supplemental information" because of the heron's colonial nesting habits. Herons nest in colonies with several nests in each tree. They prefer to nest in a stand of large deciduous or ponderosa pine trees next to the edge of a body of water. There was an active heron rookery on Horseshoe Lake for many years that had up to 92 young birds and 32 active nests. The site was abandoned. Herons are still common in the Thompson Chain of Lakes and have probably established another rookery.

Air Quality

There are no significant air quality problem in the Thompson Chain of Lakes basin; hence, the issue of air quality has not been specifically addressed in the Thompson Chain of Lakes area. Partly because the area is sparsely inhabited, there is little concern at the present time about air quality. Particulate matter (dust) is of small concern because the region is heavily covered by vegetation. Smoke, especially that associated with woodstoves for heating, has had minimal impact because winter inhabitance of the area is presently low.

The pressures of western Montana's rapidly growing population may decrease air quality in the Thompson Chain of Lakes area. Because the lakes are situated in a valley, as human use becomes more intensive, air quality may be impacted by several factors. First, increased numbers of human inhabitants may increase woodstove and wood fire use in the area. Temperature inversions and simply the closed nature of the basin may tend to trap smoke-laden air in the valley, impairing health and visual qualities. Smoke from slash burns in the spring and fall which occur on timber harvest areas not associated with TCL are controlled by the Smoke Management Cooperative and the Montana Air quality Bureau. Second, as recreational use increases and traffic increases in the Libby-Kalispell corridor served by US Highway 2, air pollution by carbon dioxide, carbon monoxide, sulfur dioxide, and other combustion-engine-related gases will increase. Again, the low-lying valley topography may trap and focus these gases. Photochemical effects could further intensify the negative visual impacts of increased traffic.

Visual Quality

The Thompson Chain of Lakes area landscape is dominated by two visual themes: lake and forest. The lakes provide the greatest attraction. Wetland scenery and human habitations are secondary attractions. From most vista points, new visitors would feel they are in a relatively undisturbed area because a number of undeveloped "pockets" are readily found near major highway viewpoints. Characteristic landscape features of the Thompson Chain of Lakes area include forested lakeshores with trees immediately bordering the water; long lake vistas including mountain scenery, and marshy areas with cattails and other reeds bordering the lakeshore. Waterfowl, including ducks, grebes, geese, heron and loons, are common elements of the landscape. Raptor species, including bald eagles, osprey, and several species of hawks contribute to the area's visual and emotional interest.

The Thompson Chain of Lakes are generally not visible from U.S. Highway 2, except for a part of McGregor lake's west end and some scattered glimpses of Middle Thompson, Lower Thompson, and Loon Lake. The heavy tree cover precludes extensive examination of the lakes by visitors driving through the area. Many lakes, including Horseshoe, Leon, and Crystal, cannot be seen from the highway. Boats provide an important viewing opportunity in the Chain of Lakes area.

Because the Thompson Chain of Lakes occupy a valley bottom, the opportunities for long vistas are limited in the proposed project area. However, views up the elongate lake are a feature of some, especially roadside, overlooks including the first pull-off area at the wet end of Loon lake. Selected vistas of the Lower Thompson River Valley are visible from boats using the Lower Thompson lakes.

Smaller lakes offer the same kind of intimate experience with the landscape that can be found in small meadows or marshes. Areas such as Little McGregor lake, Cibid Lake, and Leon Lake have a high ratio of shoreline length to lake area. They are havens for ducks and other waterfowl. Their small-scale views focus the visitor's attention on the close-up details of the

site. Horseshoe Lake, with an active bald eagle nest, nearby loons, a backdrop of large trees, and views of waterfowl, provides isolation.

In contrast to undeveloped TCL lands, several lakes (Middle Thompson and Crystal), are highly impacted by human activities. Houses, roads, and managed landscapes are apparent even from long distances. The landscape character in these developed areas is altered to heavily altered.

CULTURAL RESOURCES

Cultural resources in the Thompson Chain of Lakes area are significant and extensive. Native American cultures began to utilize the area about 8,000 years ago, according to some general estimates. Use of the area by the Kootenai and Salish tribes originated long ago. Thompson Chain of Lakes was an area that may have been utilized for fishing and hunting resources by both tribes. As such, a few long-term, large villages might have been present. No concerted attempt has been made to identify Native American cultural sites in the Thompson Chain of Lakes area.

Early trappers and gold miners also passed through the area. Cultural resources, such as old trapping sites, cowboy line cabins, and old roads may be present in the Thompson Chain of Lakes. No recognized or well-documented site has been recorded to date.

History: The Thompson Chain of Lakes area is part of a large, mountainous region drained by the Clark Fork and Kootenai Rivers. This region, known geographically as "the Kootenai", has been home or hunting ground for humans since the last glacial retreats 12,000 years ago. Through the use of geological, biological, sociological, and archeological evidence, archaeologists have pieced together a model of how early natives used the Kootenai region. The use patterns for the Thompson Chain of Lakes area were probably similar to the regional model, although details may vary with specifics of climate, wildlife, and plants.

The region's first inhabitants were hunter gatherers. About 8,000 to 4,000 years ago, small family groups moved as frequently as 40 times per year to hunt and gather. They camped along the fringe of lakes created by glacial action and glacial retreat. Thompson Chain of Lakes provided camp sites for hunting and fishing. Lakes yielded fish and adjacent terraces and uplands provided big game hunting using spears and hand-held hunting tools.

As the Pleistocene glaciers vanished, climate warmed and vegetation changed. By 4,000 years ago, the forest canopy had retreated to higher elevations and valleys were more open, providing good game habitat. As game moved to the valleys, people followed. With increasing human population, a broader range of resources was tapped, resulting in a more fish-oriented culture. Alleged burning of forests by native Americans may have begun as early as 2,000 years ago, substantially increasing big game browse. The bow and arrow appeared only about 1,500 years ago, and the arrival of the horse less than 400 years ago permitted seasonal movement to the Great Plains to hunt buffalo. So although prehistoric change was not rapid, the region's

wildlife, plant cover, cultures, and management practices have evolved significantly during prehistoric human habitation.

The written, historic period of the Kootenai and Salish peoples began with the trappers' and explorers' journals of the early 1800's. The native Americans were generally described as friendly, honest, and charitable. They used a multitude of plant resources for medicine and food, fished extensively, used the horse, and supplemented their food supply by hunting.

Christianity followed the arrival of the Hudson Bay Company. The Kootenai sought the "black robes" to teach spiritual life, but never completely replaced their traditions.

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SOCIOECONOMIC ENVIRONMENT

Montanans cherish their outdoor resources. They prize public lands as an integral part of their social infrastructure as necessary as roads and bridges. They hold as priceless the natural and cultural heritage on these lands, arguably the best in the nation.

Out-of-state visitors to Montana's state parks contribute almost $45 million to Montana's economy which supports 1,500 private sector jobs. When compared to the parks' current annual expenditure of $2.3 million for operations and $1.3 million for improvements, spending by out-of-state visitors to Montana's state parks represent a ten-to-one return on investment (State Park Futures Committee, 1990).

TCL lies primarily within Lincoln County. McGregor Lake is in Flathead County. Approximately 80 acres of Lower Thompson Lake lies within Sanders County. Each of these counties have a high unemployment rate. The Lincoln county unemployment rate for 1991 averaged 15.1 percent. Its 1992 rate has already reached 13.8 percent (Todd, 1992). The Flathead County unemployment rate for 1992 averaged 9 percent (Kalispell Chamber of Commerce, 1993).

The communities most likely to be affected by the creation of TCL are Kalispell, Libby, Troy, and the small rural, unincorporated communities immediately adjacent to the Chain-of-Lakes area and adjacent U.S. Highway 2 (such as the Happy's Inn, McGregor Lake, and the Pleasant Valley-Lost Prairie area). Even with the declining local economies, among some users of the Thompson Chain of Lakes area, there is a feeling that they do not wish to see increased use of these lakes at the expense of their traditional use. This dichotomy, wanting tourist dollars, but not wanting to share "our" lake, is a philosophical difference that needs to be considered.

The greatest number of people affected by the creation of TCL would be the local recreationists that use this area. Also impacted would be tourists who travel U.S. Highway 2. During the 1990-1991 period, approximately 48,000 non-resident groups (approximately 100,800 people) traveled Highway 2. From May to September, 1990, the University of Montana, Institute for Tourism and Recreation Research (ITRR) sampled non-resident visitors at 19 primary and Interstate Highway points used to enter Montana (these routes account for about 85 percent of

1990-1991 period, approximately 48,000 non-resident groups (approximately 100,800 people) traveled Highway 2. From May to September, 1990, the University of Montana, Institute for Tourism and Recreation Research (ITRR) sampled non-resident visitors at 19 primary and Interstate Highway points used to enter Montana (these routes account for about 85% of all Montana Highway traffic). On Highway 2 West, the sample was obtained from east-bound visitors as they entered Troy Montana, 14 miles east of the Idaho-Montana border. When these visitors were asked to list all of their reasons for visiting Montana, 79% listed "vacation" first. The respondents who indicated that they visited Montana for a vacation or recreation were asked to list the reasons they were attracted to the state as a vacation choice. A total of 89% of the vacationing respondents indicated that they were attracted to Montana by its scenery. Wildlife viewing, attending special events, camping, and visiting historic sites were also popular attractions to many vacation visitors.

Highway 2 visitors were asked to indicate, from a list, all the recreation activities that their group had participated in while in Montana. The most popular activities identified in the survey included photography, visitor centers, visiting historic sites and museums, and day hiking. Other important activities were auto/RV camping, viewing wildlife, picnicking and fishing.

The average total group expenditure per day by visitors was $55.82. Of that sum, 22% was spent on transportation costs, 25% on lodging, 33% on food, and 17% on retail goods. The average stay in Montana for the study respondents was 2.9 nights. The greatest percentage of nights spent were at Auto/RV camps and in hotels/motels (36% and 35% respectively). In general, the western entrance of Highway 2 drew visitors from a wide geographic area including western states, eastern states, Canada, and foreign countries (Institute for Touring, 1992). If out of state guests could be encouraged to stay in this area for one extra day due to recreational opportunities, a significant financial benefit would be realized. An economic briefing on trends in Lake, Lincoln, and Sanders Counties is available from FWP files.

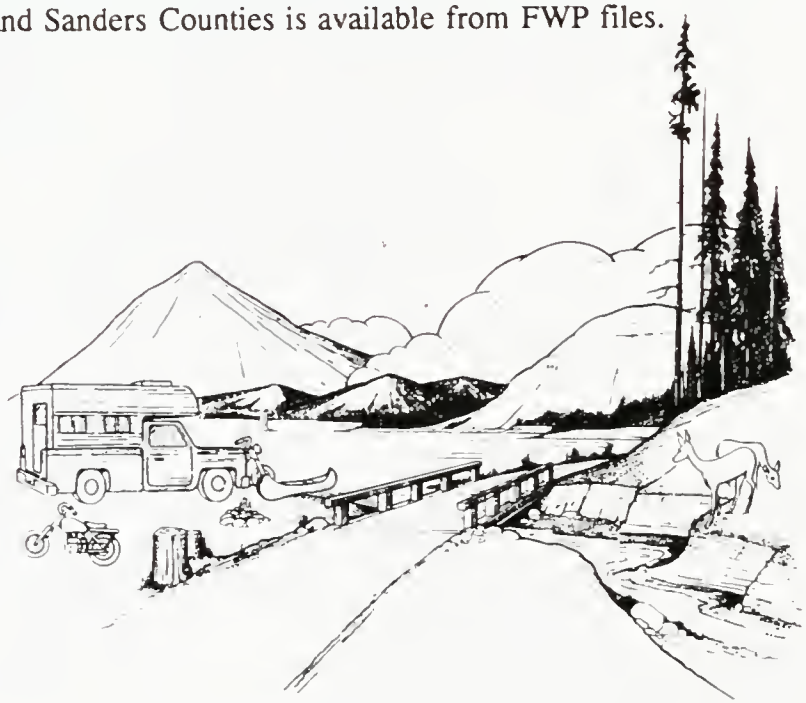

Figure 21. Traditional uses are cherished.

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KEY MANAGEMENT ISSUES

RECREATION

Site Management: Presently, management of the recreational facilities occurs at Logan State Park which is managed by FWP and McGregor Lake Campground managed by the U.S. Forest Service. Apart from volunteer user work and some FWP administration of dispersed areas, there is little management of other recreational facilities. Managerial activities are necessary to meet the public's desire to see no increase in the number of dispersed camping sites, and to address site protection.

All sites visited had very little problem with solid waste disposal even though no solid waste disposal facilities were available at the sites. The "Pack in-Pack out" policy has proven to be a successful management strategy for the current users.

Sanitary facilities are very unsatisfactory at most dispersed site locations. Many pit toilets are less than 100 feet from lakes, and water tables are evident in several of the pits. This lack of sanitary facilities contributes to water pollution and an unsanitary environment. Management is necessary to protect the resource and to provide a healthy, socially acceptable environment for TCL users. Montana Department of Health and Environmental Sciences regulations require toilets in areas providing campsites.

Potable water is supplied at two camp areas at TCL; all other potable water for the area is either brought in by the users or obtained through private sources around the lakes. Drinking water should not be obtained from the lakes. Montana Department of Health and Environmental Sciences regulations require an adequate and potable supply of water at each campground. A waiver of this regulation will be necessary, or the law will need to be changed in order for the alternatives mentioned in this plan to be acceptable.

Maintenance of water quality is a key concern in recreation management. A number of recreational users (20-40/day) utilize traditional dispersed campsites around Middle Thompson Lake that have no sanitary facilities. These areas have been pioneered by users for over twenty years, and represent some of the best recreation sites in TCL. This usage may contribute to lake pollution. The use of vehicles and compaction/vegetation loss around campsites can also contribute minor amounts to sediment loads in the lakes. If left completely unmanaged, camping and day use could adversely affect the qualities that attract people to the Thompson Chain of Lakes. Public comment indicates a preference for the current level of use (not additional pioneering of campsites). Further pioneering should be discouraged.

Informal polls (conducted verbally by the consultants during the summer of 1992) of persons who live or fish in the Thompson Chain of Lakes area indicate that they wish the area to "stay just the way it is now" under future management. This poll coincides with the 1992 Advisory Committee questionnaire in which 52 percent of respondents wished to maintain the area as it was, even if it meant no new campgrounds, and only 36 percent wanted the area to change. From written

Figure 22. Undeveloped campsite on Horseshoe Lake

comments, the desire to "leave things just the way they are" can be distilled into several components: 1) Maintain the dispersed nature of the recreational experience. 2) Maintain the relatively undeveloped nature of the existing recreational resource, allowing close "contact" with nature in most locations. 3) maintain or improve current water quality by preventing further degradation. 4) Manage to maintain forest cover and mixed conifers. 5) Allow relatively easy access to campsites and boat-ramps.

The results of the questionnaire circulated in 1992 by the Thompson Chain of Lakes Advisory Committee indicated that, while 63% of respondents wanted a variety of camping opportunities, a large minority (49%) of respondents favored ONLY dispersed sites.

Any recreation use plan must balance easy access with the need for privacy as well as the desire for dispersed, undeveloped camping experiences against the need to protect the water, wildlife, fishery and visual resources that attract people.

The most popular locations for new or improved campgrounds, according to the poll, were McGregor and Loon Lakes. Upper and Lower Thompson Lakes ranked next, followed by Middle Thompson. Horseshoe Lake, ranked as the 4th choice with Crystal, Little McGregor, Rainbow, Lavon, and Bootjack.

Based on user opinions, traditional recreational use patterns and environmental (water quality, wildlife/game habitat) concerns, the recreational management strategies should provide dispersed recreation. If in the future expansion of public recreational opportunities is appropriate due to resource considerations or social demands, the larger, more buffered water bodies, (i.e., McGregor and the Thompson Lakes) should be the focus of recreation areas designed for denser occupation, with additional facilities provided at Loon Lake to the level that the lake's water quality, wildlife/waterfowl, and fisheries resources are not adversely impacted. At lakes such as Horseshoe, Little McGregor, and Cibid that are more easily affected by human use, additional use beyond that which is currently occurring will be discouraged. Public opinion seems to support this strategy.

It is recommended that site-specific archeological surveys be deferred on TCL until implementation of any recreational development or phase. Individual sites on TCL may then be either excavated or, more commonly, "hardened" to preserve them for future detailed investigation while still allowing recreational development. Hardening the site typically means to cover the roadway, parking lot, or other exposed surface with earth, gravel, pavement, or other material so as to prevent the ground from being disturbed. Then, if necessary, excavate archeological materials in the future.

If excavated, the cultural material should be inventoried and preserved by the State.

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ACCESS/ROADS

The public presently exercises almost unlimited and unrestricted access to TCL and the lakes. Some of the roads cross private land without public easements. Most roads were not designed or constructed to recognize safety or resource protection needs. Some road segments exhibit severe rutting and potholing which may need improvements for public safety and user convenience.

Sixteen percent (16 percent) of respondents to the advisory committee's survey listed "four-wheeling" as a major recreational use. While unlimited vehicle access is the preference of some recreationists, it conflicts with other desires and may impact the very resources to which the roads provide access. This impact comes from: 1) Higher turbidity in the lakes from erosion of cutbanks, fill, gravel roads and dirt roads. 2) Higher rates of runoff, which may decrease groundwater supplies. 3) Noise and visual pollution which may create social conflicts and

impact wildlife. 4) Air pollution in the form of dust particles. 5) Increased roading allows more items to be carried into areas, which may call for increased trash cleanup, and management costs to maintain, and patrol additional road mileage.

Local and regional users of the Thompson Chain of Lakes area have identified easy access as very important. Past and present users have done a commendable job of keeping dispersed sites clean. However, with increased use the probability of degradation will increase. In keeping with public preference to manage for traditional uses, ATV or four-wheeling use will continue on established roadways throughout TCL, but monitoring of the effects of this activity should be ongoing. If resource degradation is caused by this activity then appropriate actions will be implemented.

To protect and improve resource values, monitoring of water quality and wildlife habitat should occur to allow managers to make informed decisions.

Plum Creek and Champion, with the National Forest lands, have easements on roads and bridges throughout TCL. These easements will not be affected. Champion owns the haul road on the south side of Middle and Lower Thompson Lakes, and will continue to use it as an overweight off highway log hauling route. As public use increases on this road, dust abatement may need to be addressed. Parking areas need to be developed in some areas so ice fishermen can park safely off the roadway.

The Montana Department of Transportation is currently in the process of widening Highway 2 in this area. The results of this project will impact TCL, and may make some areas currently being used for camping unusable. As this highway project progresses, this will be addressed.

BOATING

Fishing proves to be the most popular recreational use of the Thompson Chain of Lakes area, with 85 percent of respondents to the Advisory Committee's survey listing fishing as their primary activity. Approximately 20 percent waterski. About 5 percent use jet skis.

Boating is governed under Montana law (23-2-501 MCA), and as such is not part of this plan. Current law allows motor boat restrictions only for environmental damage, private property damage, or public health and safety reasons. Except in those instances covered under existing laws, regulatory action and public involvement would be needed to regulate watercraft.

Boating has been a significant social issue at Thompson Chain of Lakes. Power-boating can conflict with other major uses of the area, such as wildlife viewing, photography and canoeing. It can also seasonally affect waterfowl and other wildlife.

One strategy for watercraft management is to reserve some areas for non-powered or low-wake boating. Public sentiment appears to support no change in the current range of boating opportunity on McGregor, Upper Thompson, Middle Thompson, Lower Thompson, or Crystal

Lakes. No-wake limits appear to be supported on Loon, Lavon, Bootjack, Rainbow, Leon, and the smaller pothole lakes. Public sentiment on Horseshoe Lake is unclear.

Please refer to the section that deals with wildlife issues for a discussion of boating closures related to wildlife.

Figure 23. Motorboat fishing is popular on larger lakes.

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WATER QUALITY

Maintaining or improving water quality is of concern to all users and landowners in the Thompson Chain of Lakes area. Many homeowners in the area get their household water supply from the lakes. And most of those who derive their water from wells use shallow wells (25 feet-50 feet) in highly porous, poorly filtered gravels that may pass on much of the problems of lake water to the well user.

Water quality is an issue of concern in several lakes. Current data indicates that the lakes should be included in a water quality monitoring program to clearly establish conditions and trends. Horseshoe Lake may be the most constrained by its lack of surface water supply and surface recharge: Crystal Lake may be affected by human development, landscape management, and lack of regulation on sanitary facilities: Loon Lake and McGregor Lake seem to have the best water quality conditions and the most active surface water recharge. Not surprisingly, Loon and McGregor also have the best fisheries. Water is brown in Loon Lake due to tannic acid from decaying vegetation.

Water quality can be degraded by several mechanisms: 1)Seepage of septic systems into lake and groundwater. 2) Surface-water transport of human and livestock waste into lake and stream water. 3) Siltation and increase in suspended clay particles due to erosion of bare soils roads, and roadcuts. 4) Thermal degradation--heating of lake water by influx of warmer stream waters. 5) Infiltration of natural nutrients. Every effort should be made to run tests and/or infra-rad flights to pinpoint the possible contamination sources. This should be done as soon as possible.

Degradation of water quality may be imperceptible, and may seem insignificant until acidity, temperature, or ammonia level in the waters reach critical levels and fish die off while algal bloom or bacterial contamination, of an aquifer occurs. As noted earlier, the water exchange and groundwater movement patterns in the substrate probably tie most of the lakes together so that site specific problems could easily expand to adjacent lakes. These conditions are not easily reversed. Re-establishment of desirable water quality may take decades and major expenditures.

Degradation of water quality can be guarded against through proper land management, proper sanitary facilities and wise recreational use. These steps should include: Use of proper sanitary facilities at all recreational sites; 2) revegetation or hardening of erodible roads; 3) proper livestock stocking rates; 4) protection of riparian areas and wetlands; and 5) revegetation of riparian areas along streams where needed. Proper management of water resources within TCL will substantially improve water quality and recreational opportunities.

The sanitary system at Logan Park should be monitored to determine whether it contributes nitrogen, phosphorous, or other organics to the lake water. Also, the number of unimproved campsites should not be expanded and sanitary facilities provided if water quality of the Thompson Lakes is to be stabilized and improved.

Water Quality Monitoring Plan: Because of the lack of water quality test data available for the preparation of this Environmental Assessment, and the possibility of lake water quality degradation, a water quality monitoring plan should be implemented at the earliest possible time.

This plan would include at least the following:

Secchi Disk Transparency: A procedure used to determine water clarity and is a key measurement in determining algal growth trends.

Chlorophyll a: This parameter is important in establishing the photosynthetic level of algal growth.

Total Phosphorus: Through measuring phosphorus, monitors can help determine water fertility and the likelihood of increased algal growth. as phosphorus is the primary limiting nutrient in most lakes.

Other monitoring activities will be to take water temperature, make meteorological observations, identify water color and to observe and quantify unusual events that may suggest deteriorating water quality, such as algal blooms, fish kills and other phenomena.

The plan will depend heavily upon the use of volunteer water quality monitors. Volunteer training should be integrated with that undertaken by the Flathead Basin Commission for its volunteer monitors.

The water quality monitoring plan should be coordinated with the University of Montana Biological Station at Yellow Bay, and with the Flathead Basin Commission and the Basin Commission's volunteer plan.

VEGETATION

Vegetation management issues include management of timber, grasses, wetlands vegetation, and noxious weeds. These strategies are all interrelated with management for water quality and wildlife and hinge directly on recreational management objectives.

Forestry and Timber: Historically, timber resources have been harvested for lumber in the Thompson Chain of Lakes area. Harvest methods have ranged from clearcutting to selection harvest. Virtually 100 percent of the dry land area in the Conservation Fund lands is timbered, with second or third growth. Two small areas of probable old growth have been identified.

There are three options in management of the timber resource: 1) To manage for only recreational and wildlife use and future old-growth characteristics, and to not permit logging at all. 2) To practice stand thinning and selection harvest, providing a small but sustainable yield, with management for varied wildlife habitat. 3) To manage the timber more intensively on a sustained yield basis using a variety of silvicultural prescriptions including clearcuts of varied size to serve identified objectives, such as habitat enhancement.

Care must be taken to ensure that the prescription selected is compatible with aesthetic value and water quality. Large-scale timber harvest may disrupt the visual integrity of the area as well, and would provide habitat for growth of noxious weeds, especially spotted knapweed. In areas away from heavily used recreation areas, and on the north side of Hwy 2, this may be a viable option.

The first option, to manage only for recreational use and older-growth forest characteristics, may be applicable in some areas, such as existing stands near Little McGregor Lake. The recreational and aesthetic value of existing old-growth stands is high. Hiking trails in these areas would be desirable, especially from the viewpoint of urban visitors. As a part of a diverse habitat, preservation of old growth as a habitat option is desirable.

The second option, selective stand thinning and sustainable yield--planned with production of varied wildlife habitat--may be a viable option for portions of Thompson Chain of Lakes Conservation Lands. Selective thinning is desirable in areas such as the dense lodgepole stand west of Upper Thompson Lake. Species conversion over time may provide greater flexibility in management options with lodgepole pine. Other areas may benefit from occasional harvest and thinning. Horse logging and limited contract logging of a small number of board feet/year

could provide sustained income for the State of Montana. It could also provide a show-place for environmentally sound timber harvest practices, with public education as one outcome.

The third option recognizes that thinning is inevitably needed of various species and in various areas. This thinning can enhance wildlife habitat. Lodgepole stands, if not thinned, will be vulnerable to the Mountain Pine Beetle, and will endanger adjacent lands. This option supports active management rather than stagnation.

If any timber harvest is undertaken, diligent care of water and air quality must be taken. Riparian areas and wetlands should be protected. Control of knapweed and other noxious weeds would be a priority in any prescription.

Noxious Weeds: Plants that displace desirable vegetation while providing no benefit, or having a negative impact upon wildlife and human resources, are considered "noxious weeds". Noxious weeds are a major problem to wildlife, agriculture, and other resources in western Montana. Most are non-native plants, inadvertently imported form Europe or the Middle East. They can replace and displace native vegetation, especially in overgrazed or other disturbed areas. Their economic impacts can be negative and severe.

In the Thompson Chain of Lakes area, several noxious weeds are well established. Spotted knapweed is the most prevalent. St. Johnswort (goatweed) and Canada thistle are the other two weeds noted during field reconnaissance.

Property owners are mandated to control noxious weeds. Spotted knapweed can be controlled through application of herbicides, and in the future, through biological control by introduced insect and other pests. Control by use of chemical agents is expensive. In areas where little knapweed is present (under forest canopy) temporary and perhaps long-term control of this biennial plant may be achieved through pulling, and cutting and other mechanical means prior to seed production. Control along road right of ways is important as well.

The most vital aspect of noxious weed control is controlling and eradicating newly introduced weeds that are poised to invade the area. These include leafy spurge, whitetop, purple loosestrife, and sulfur cinquefoil. An annual survey for new "invading" weeds is absolutely essential to preventing establishment of plants such as purple loosestrife, which can completely destroy wildlife and fishery habitat.

Weed management and control are essential if the Thompson Chain of Lakes area is to retain its value for recreation and wildlife habitat. Early detection and control are far more economical than allowing an invasion to proceed and then having to control major weed infestations in the future. A cooperative weed management program should be implemented, that coordinates with adjacent landowners and the county weed boards. This weed control program should be conducted in a manner consistent with maintaining and improving water quality. Severe and long-lasting chemical agents should be avoided in locations where they may enter lake or stream water, or other water supplies. Noxious weed management, including use of chemical and

biological agents, and grazing-pulling-cutting management techniques, can result in control over the long run.

An inexpensive, vigorously pursued program of weed monitoring and immediate control measures will prevent weeds from degrading habitat and recreational opportunities. This monitoring should also examine the area for weeds such as whitetop, sulfur cinquefoil, diffuse knapweed, and Russian knapweed which are known to occur in Lincoln County but have not been documented in the Thompson Chain of Lakes area.

Figure 24. Predominant livestock use is by cattle.

Livestock Grazing: Grazing, logging, recreation, and other activities have changed the plant communities of the Thompson Chain of Lakes from the native condition, including the invasion of spotted knapweed and other noxious weeds through western Montana. The presence and continued threat of these weeds, and the legal requirement to control them, mandates that grass, forb, and other native and desirable plants be maintained in the best condition possible so they can deter further invasion by noxious weeds and begin to repel this invasion.

Although livestock grazing is compatible with range and grassland management, there are some concerns with grazing programs mixed with recreation and wildlife. Forest lands tend to close their canopy, suppressing grass growth and livestock forage. Livestock damage to young regenerated stands can also be a problem if areas receive heavy use. Long-term grazing on any forest lands must shift and change as the forest canopy closes and the plant communities adjust. Where a strong, long-term program of timber-grazing management can be practiced in upland areas, grazing may be integrated. Where areas for integrated management are relatively small, and alternatives are fewer, grazing is less viable.

Cattle grazing can also conflict with intensive human recreational use. Cattle often utilize the same areas preferred by people, such as in picnic areas, campsites, grassy meadows, and shady respites along hiking trails. Cattle can create sanitation problems where they congregate, particularly in riparian zones and along landshores. Cattle are best excluded from heavily used recreation areas.

Cattle use can also affect riparian areas, in terms of higher nitrate and ammonia loading to streams and lakes, and by soil trampling and erosion. Because Thompson Chain of Lakes is an important water resource and water quality in some lakes - especially lower and Middle Thompson and Crystal - is of concern, exclusion of grazing from riparian areas should be considered.

Grazing impacts and recommendations: The areas leased for grazing in TCL are diverse (see grazing lease map in Figure 9). They are transitional in nature, with palatable vegetation being the result of past logging practices. As the forest canopy continues to grow, there will be less forage available and Animal Unit Months (AUMs) will have to be reduced.

Where grazing does not negatively impact water quality, wildlife habitat, or other values important to recreation, grazing may be compatible with multiple use; it can provide some income. Where grazing does have a negative impact on water quality and other critical values, then grazing should be controlled or eliminated. The economic impact of grazing to water and recreation resources far exceeds its income potential.

It is recommended that a range specialist gather data on vegetation, livestock conflicts with wildlife and recreation use, current condition and recommend AUMs for grazing leases. A livestock management plan should be developed. Livestock use should be monitored to ensure that water quality and riparian area health are maintained. It is also important that weed infestations are controlled and diminished. As recreational use and needs change, grazing use may need to be modified.

WILDLIFE

Wetlands represent a important part of the Thompson Chain of Lakes, and provide essential wildlife habitat to several species that are dependent on wetlands for feeding or nesting. Some wetlands in TCL have been impacted by human activity. Adverse impacts include loss of riparian and aquatic vegetation, soil compaction and erosion. Water quality is also a concern. Increased recreational use of the area will result in a downward trend in wetland quality and wildlife populations dependent on wetlands unless protective measures are enacted.

In order to perpetuate those wildlife species associated with large diameter trees and snags, mature forests that have not been significantly impacted by logging or recreational activities should be preserved. Some of these areas should be managed to provide large diameter nesting and roosting trees and snags. Cutting of large trees and snags along the edges of the lakes should be avoided where possible. Older forests are particularly important for area wildlife,

because these habitats are limited in the Thompson Chain of Lakes area due to extensive logging.

The bald eagle is a federally and state listed endangered species. The Montana Bald Eagle Management Plan provides guidelines for managing bald eagles and protecting bald eagle habitat on public lands. The guidelines recommend no new developments within 1/2 mile of occupied nests and minimal human disturbance. Forest structure and large trees should be maintained in occupied and potential nesting habitat and winter roost sites. The bald eagle population in Montana has been increasing. One nest site is occupied in the Thompson Chain of Lakes. It was established close to human activity and tolerates this use. A nest site management plan will be written if this nest should fail to produce young two out of three consecutive years. This plan will address camping, boating, vehicle, and other recreational use in the eagle nesting zone and area of influence, as the interim guidelines of the Montana Bald Eagle Management Plan are applied. A limited number of additional nests could be established if the population continues to grow. If this occurs the same monitoring and management plan as listed above would be implemented.

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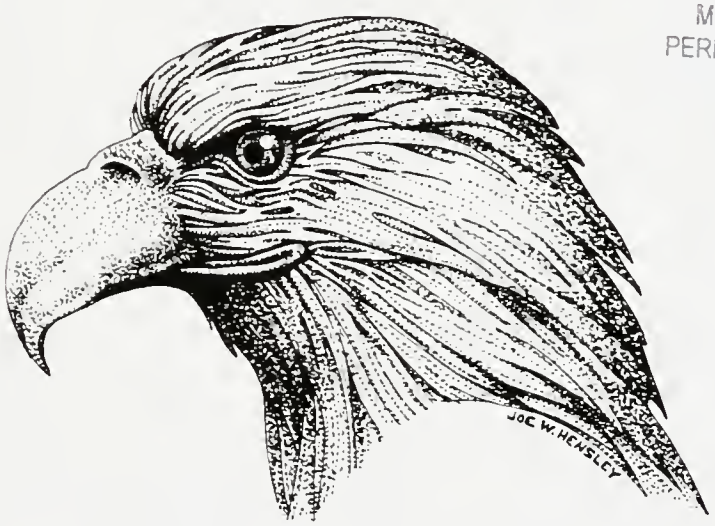

Figure 25. The Bald Eagle is our national symbol.

The common loon is listed as a sensitive species in Montana. The Montana Common Loon Management Plan provides guidelines for enhancing loon populations and habitat. Loons are very sensitive to human disturbance during the nesting season. The plan recommends locating loon nests each year and installing floating signs 150 yards from nests, asking boaters to avoid the nest area. These buoys should be in place from May 1 through July 3. Current statewide loon population is very low, around 160 birds. Loons have large territories; hence only one pair will nest on each lake, unless it is a very large lake. In recent years only 1-2 loon nests have been successful in the Thompson Chain of Lakes, although up to 5 pairs have been observed during the breeding season and good quality nesting habitat is available on several of the lakes. Protection of wetland habitat for these birds is desirable as they can usually co-exist with varied levels of human activity.

Prior to site disturbance, site-specific inventories of wildlife should be made in areas identified for site improvements. Hunting has been a traditional use of TCL and should be continued.

Wildlife Issues by Lake:

1. Crystal and Lavon Lakes.
-Within bald eagle home range.
-Much of the lake is surrounded by private development.
Plan Impacts: Existing use probably precludes any use by nesting bald eagles and loons.

2. Horseshoe and Leon Lakes.
-Currently occupied bald eagle nesting territory.
Plan Impacts: To protect the nesting bald eagles, expansion of campsites or other facilities should be planned. Existing campsites may be rehabilitated with sanitary facilities provided. Recreational use and the eagle nest will be monitored. Interim guidelines from the Montana Bald Eagle Management Plan will be implemented if the nest fails two out of three years. A nest management plan will be written which may address camping use, road closures and motorboat usage.

3. Little Loon and Loon Lakes.
-Within bald eagle nesting territory.
-Active loon nesting territory, usually unsuccessful.
Plan Impacts: With current use patterns, recreational use will not significantly impact the bald eagles. Loon nesting success may be improved with the implementation of voluntary nesting closures during the loon nesting season.

4. Little McGregor Lake.
-Currently a lightly used area with few human impacts.
Plan Impacts: None known at this time.

5. McGregor Lake.
-Loons use areas of the lake and nesting habitat occurs on several shorelines. No active nest locations have been documented, so these loons may or may not be breeding pairs.

-Active osprey nests occur near the proposed campground on the SE shore.
Plan Impacts: Any proposed recreation development can be designed so it is not likely to impact loons or osprey. No loon nests are known to occur near proposed developments. Loon nesting habitat is available in several areas not affected by potential activities. A buffer between the osprey nests and campsites will minimize disturbance to ospreys.

6. Upper Thompson Lake (Upper).
-Historic loon nesting and recent loon use, no active loon nests.
Plan Impacts: No new development should be planned on TCL for areas within prime loon habitat. Active loon nests should be signed with the voluntary 150 yard restrictions.

7. Upper Thompson Lake (Middle).
-Recent loon use and historic nesting, no active loon nests.
-Osprey nests.
Plan Impacts: Potential disturbance to loons may increase with additional campgrounds and improvements of boat access suggested in Alternative 2. The location of a new boat ramp west of the bridge across Upper Thompson, and away from loon habitat will decrease human impacts to loons. Locating and signing loon nest sites should protect loons from the increased activity on this lake.

8. Upper Thompson Lake (Lower).
-Current loon nesting.
Plan Impacts: By providing boat access to the SE edge of Lower Upper Thompson, the nearby loon nesting area and campground can both occur without significant impact on loons. The loon nest will be located and signed annually to ensure that additional boating use does not adversely impact loon nesting success.
Upper Thompson Lake.

9. Middle Thompson Lake.
-Bald eagle winter perch area.
-Recent loon nesting territory.
-Osprey nests.
Plan Impacts: Proposed recreation improvements are located away from bald eagle winter perch areas and will not significantly impact bald eagles. Active loon nests will be located and signed annually to ensure that boating does not adversely impact nesting success.

10. Lower Thompson Lake.
-Historic loon nesting territory.
Plan Impacts: No new development should be located in the prime loon nesting habitat. Active loon nests will be located and signed annually to ensure that boating does not adversely impact nesting success. Buffers should be provided around osprey nests near campgrounds.

APPENDIX A: LEGAL AUTHORITY

1. Authority for Land Acquisition; Restriction of Condemnation Authority (Sec 87-1-209 MCA).

2. Boating Law Excerpts (Sec 23-2-522 through 526 MCA).

3. Montana Environmental Policy Act (MEPA) Policy (Sec 75-1-103 MCA).

4. Lease for Chain of Lakes.

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87-1-208. Inspection at checking station. Every person, upon the request of the director or his authorized representative or of any game warden, shall produce for inspection any current fish and game license which has been issued to such person and shall produce for inspection any game animals, birds, fish, or fur-bearing animals in his possession. Hunters or fishermen entering or leaving areas for which checking stations have been established must stop and report if a checking station is on the hunter's or fishermen's route of travel to or from the hunting or fishing area. Failure to stop and report at a checking station when personnel are on duty shall constitute a misdemeanor.

History: En. Sec. 2, Ch. 270, L. 1973; R.C.M. 1947, 26-138.

87-1-209. Acquisition and sale of lands or waters. (1) The department, with the consent of the commission and, in the case of land acquisition involving more than 100 acres or $100,000 in value, the approval of the board of land commissioners, may acquire by purchase, lease, agreement, gift, or devise and may acquire easements upon lands or waters for the purposes listed in this subsection. The department may develop, operate, and maintain acquired lands or waters:

(a) for fish hatcheries, nursery ponds, or game farms;

(b) as lands or water suitable for game, bird, fish, or fur-bearing animal restoration, propagation, or protection;

(c) for public hunting, fishing, or trapping areas;

(d) to capture, propagate, transport, buy, sell, or exchange any game, birds, fish, fish eggs, or fur-bearing animals needed for propagation or stocking purposes or to exercise control measures of undesirable species;

(e) for state parks and outdoor recreation;

(f) to extend and consolidate by exchange, lands or waters suitable for these purposes.

(2) The department, with the consent of the commission, may acquire by condemnation lands or structures for the preservation of historical or archaeological sites that are threatened with destruction or alteration.

(3) (a) The department, with the consent of the commission, may dispose of lands and waters acquired by it on those terms after public notice as required by subsection (3)(b), without regard to other laws which provide for sale or disposal of state lands and with or without reservation, as it considers necessary and advisable.

(b) Notice of sale describing the lands or waters to be disposed of shall be published once a week for 3 successive weeks in a newspaper with general circulation printed and published in the county where the lands or waters are situated or, if no newspaper is published in that county, then in any newspaper with general circulation in that county.

(c) The notice shall advertise for cash bids to be presented to the director within 60 days from the date of the first publication. Each bid must be accompanied by a cashier's check or cash deposit in an amount equal to 10% of the amount bid. The highest bid shall be accepted upon payment of the balance due within 10 days after mailing notice by registered or certified mail to the highest bidder. If that bidder defaults on payment of the balance due, then the next highest bidders shall be similarly notified in succession until a sale is completed. Deposits shall be returned to the unsuccessful bidders except bidders defaulting after notification.

(d) The department shall reserve the right to reject any bids which do not equal or exceed the full market value of the lands and waters as determined by the department. If the department does not receive a bid that equals or exceeds fair market value, it may then sell the lands or waters at private sale. The price accepted on any private sale must exceed the highest bid rejected in the bid process. The department shall convey the lands and waters without covenants of warranty by deed executed by the governor or in his absence or disability by the lieutenant governor, attested by the secretary of state and further countersigned by the director.

(4) The department, with the consent of the commission, is authorized to utilize the installment contract method to facilitate the acquisition of wildlife management areas in which game and nongame fur-bearing animals and game and nongame birds may breed and replenish and areas which provide access to fishing sites for the public. In no case may the total cost of such installment contracts exceed the cost of purchases authorized by the department and appropriated by the legislature.

History: En. 26-104.6 by Sec. 7, Ch. 511, L. 1973; amd. Sec. 1, Ch. 157, L. 1975; amd. Sec. 4, Ch. 417, L. 1977; R.C.M. 1947, 26-104.6; amd. Sec. 2, Ch. 379, L. 1979; amd. Sec. 2, Ch. 230, L. 1981; amd. Sec. 2, Ch. 418, L. 1981; amd. Sec. 50, Ch. 519, L. 1983; amd. Sec. 2, Ch. 310, L. 1985; amd. Sec. 151, Ch. 370, L. 1987.

87-1-210. Research, training, and other projects. (1) The department may enter into cooperative agreements with educational institutions and state, federal, or other agencies to promote wildlife research and to train men for wildlife management. It may enter into cooperative agreements with federal agencies, municipalities, corporations, organized groups of land owners, associations, and individuals for the development of game, bird, fish, or fur-bearing animal management and demonstration projects.

(2) It may establish and maintain an educational and biological program for the collection and diffusion of statistics and information germane to the purpose of this title.

History: En. 26-104.7 by Sec. 8, Ch. 511, L. 1973; amd. Sec. 13, Ch. 417, L. 1977; R.C.M. 1947, 26-104.7.

87-1-211. Repealed. Sec. 3, Ch. 340, L. 1985, and Sec. 2, Ch. 648, L. 1985.

History: En. Sec. 19, Ch. 193, L. 1921; re-en. Sec. 3668, R.C.M. 1921; re-en. Sec. 3668, R.C.M. 1935; amd. Sec. 1, Ch. 186, L. 1969; amd. Sec. 7, Ch. 417, L. 1977; R.C.M. 1947, 26-119.

87-1-212. *(Temporary)* **Authority to dispose of surplus handguns — accounting.** (1) The department may destroy, sell, or dispose of surplus handguns owned by the department.

(2) All money received under subsection (1) must be credited to the account from which the handguns were purchased.

(3) The department may adopt rules to implement this section. *(Terminates October 1, 1993—sec. 6, Ch. 234, L. 1991.)*

History: En. Sec. 1, Ch. 234, L. 1991.

(9) A person may not operate or give permission for the operation of a vessel that is not equipped as required by this section.

History: En. Sec. 5, Ch. 285, L. 1959; amd. Sec. 1, Ch. 138, L. 1961; amd. Sec. 2, Ch. 230, L. 1963; amd. Sec. 1, Ch. 169, L. 1965; amd. Sec. 52, Ch. 511, L. 1973; amd. Sec. 5, Ch. 511, L. 1973; amd. Sec. 1, Ch. 305, L. 1975; amd. Sec. 8, Ch. 121, L. 1977; amd. Sec. 13, Ch. 417, L. 1977; R.C.M. 1947, 69-3505; amd. Sec. 1, Ch. 348, L. 1987; amd. Sec. 2, Ch. 728, L. 1991.

Compiler's Comments

1991 Amendment: In (3)(a), after "exhaust noise", substituted "to 90 dbA or less when measured at a distance of 1 meter from the muffler at idle speed in accordance with the stationary sound level measurement procedure for pleasure motorboats (SAE J2005)" for "at full throttle to 86 dbA or less when measured at a distance of 50 feet"; inserted (3)(b)(iii) exempting vessels operated by government agents performing certain functions; and made minor changes in style. Amendment effective April 29, 1991.

23-2-522. Discharge of waste from vessel prohibited. (1) No person shall discharge or cause, permit, or suffer to be discharged any garbage, refuse, waste, or sewage from any vessel into, upon, or near the waters at any stream, river, or lake within the boundaries of the state of Montana.

(2) The department of health and environmental sciences shall adopt rules to protect water quality and aquatic ecosystems by establishing guidelines for the installation of vessel pumpout facilities.

(3) In adopting the rules, the department shall use these definitions:

(a) "Vessel terminal" means a private or public shoreside installation on any waters of Montana that provides mooring, docking, berthing, and other facilities for the use of vessels.

(b) "Marine sanitation device" means any equipment on board a vessel that is designed to receive, retain, treat, or discharge sewage, and any process to treat the sewage.

(4) The rules must include standards for the construction, operation, and maintenance of vessel pumpout facilities.

(5) Nothing in this section may be construed to require the department to install pumpout facilities without prior legislative approval and an appropriation.

History: En. Sec. 2, Ch. 169, L. 1965; amd. Sec. 8, Ch. 511, L. 1973; amd. Sec. 11, Ch. 121, L. 1977; R.C.M. 1947, 69-3508.1; (2) thru (5) En. Sec. 9, Ch. 728, L. 1991.

Compiler's Comments

Effective Date: Section 14(1), Ch. 728, L. 1991, provided that [section 9], codified as subsections (2) through (5) of this section, is effective on passage and approval. Approved April 29, 1991.

23-2-523. Prohibited operation and mooring — enforcement. (1) A person may not operate or knowingly permit a person to operate a motorboat or vessel or manipulate any water skis, surfboard, or similar device or other contrivance in a reckless or negligent manner so as to endanger the life, limb, or property of any person by:

(a) engaging in maneuvers that unreasonably or unnecessarily endanger life, limb, or property, including but not limited to weaving through congested vessel traffic or jumping the wake of another vessel unreasonably or unnecessarily close to the other vessel or when visibility around the other vessel is obstructed and including swerving at the last possible moment to avoid collision, following directly behind a waterskier, speeding in confined or restricted areas, and buzzing or wetting down others, which constitute reckless operation of a vessel;

(b) crossing or jumping the wake of another vessel when within 100 yards of the vessel or within 100 yards of a waterskier being towed by the vessel, except when directly entering or leaving a public or private marina, waterski facility, or other watercraft docking or loading area.

(2) A person may not operate any motorboat, including a sailboat propelled by a motor of any kind, or manipulate any water skis, surfboard, or similar device attached to a motorboat while under the influence of alcohol, drugs, or a combination of the two.

(3) It is unlawful for the owner of a motorboat or vessel or a person having the motorboat or vessel in charge or in control to authorize or knowingly permit the same to be operated by a person who by reason of physical or mental disability is incapable of operating the watercraft under the prevailing circumstances.

(4) A person may not operate or knowingly permit a person to operate a motorboat or vessel at a rate of speed greater than will permit the person, in the exercise of reasonable care, to bring the vessel to a stop within the assured clear distance ahead. However, nothing in this part is intended to prevent the operator of a vessel actually competing in a regatta that is sanctioned by an appropriate governmental unit from attempting to attain high speeds on a marked racing course.

(5) A person may not make a reckless approach to, departure from, or passage by a dock, ramp, diving board, or float.

(6) Skiers being pulled by motorboats must have on their person a United States coast guard approved personal flotation device in good and serviceable condition.

(7) A person may not moor a vessel to buoys or beacons placed in any waters of this state by the authority of the United States, an agency of the United States, or the department or in any manner hang on with a vessel to such buoy or beacon, except in the act of maintenance work on the buoy or beacon, nor may any person deface, remove, or destroy a buoy, beacon, or other authorized navigational marker maintained in the waters of this state.

(8) If an officer whose duty it is to enforce the sections of this law observes a vessel being used without sufficient lifesaving or firefighting devices or in an overloaded or other unsafe condition and in his judgment such use creates an especially hazardous condition, he may direct the operator to take whatever immediate and reasonable steps would be necessary for the safety of those aboard the vessel, including directing the operator to return to a mooring or launching site and to remain there until the situation creating the hazard is corrected or ended.

(9) The population density and heavy recreational use of certain lakes require a noise standard more restrictive than the standard set in 23-2-526, in order to protect the public health and safety. Unless operated on a river or stream in compliance with a commission rule adopted under 23-2-521(9), a person may not operate a motorboat or personal watercraft on Flathead Lake, situated in Lake and Flathead Counties, Echo Lake, situated in Flathead County, or Swan Lake, situated in Lake County, in proximity to the shoreline

if the noise emitted is greater than 75 dbA measured at the shoreline in accordance with the shoreline sound level measurement procedure (SAE J1970).

(10) Unless accompanied by a person 18 years of age or older, a person 12 years of age or younger may not operate a motorboat or a personal watercraft that is powered by a motor rated at more than 10 horsepower. After December 31, 1993, a person under 15 years of age may not operate a vessel or personal watercraft powered by a motor rated at more than 10 horsepower without possessing a valid Montana motorboat operator's safety certificate or evidence of completion of a Montana-approved water safety course.

(11) A person who owns or has charge or control of a motorboat or personal watercraft powered by a motor rated at more than 10 horsepower may not authorize or knowingly permit the motorboat or personal watercraft to be operated:

(a) by a person 12 years of age or younger unless accompanied by a person 18 years of age or older; or

(b) after December 31, 1993, by a person under 15 years of age unless the person possesses a valid Montana motorboat operator's safety certificate or evidence of completion of a Montana-approved water safety course or is accompanied by a person 18 years of age or older.

(12) A person may not rent a motorboat or a personal watercraft powered by a motor rated at more than 10 horsepower to a person under 18 years of age.

History: En. Sec. 8, Ch. 285, L. 1959; amd. Sec. 7, Ch. 514, L. 1973; amd. Sec. 10, Ch. 124, L. 1977; amd. Sec. 13, Ch. 417, L. 1977; R.C.M. 1947, 69-3508; amd. Sec. 1, Ch. 497, L. 1987; amd. Sec. 3, Ch. 728, L. 1991; amd. Sec. 12, Ch. 789, L. 1991.

Compiler's Comments

1991 Amendments: Chapter 728 inserted (18a) prohibiting dangerous maneuvers; inserted (18b) prohibiting crossing or jumping a wake in proximity to a vessel or waterskier; at end of (6) substituted "United States coast guard approved personal flotation device in good and serviceable condition" for "life preserver, buoyant vest, or ski belt"; inserted (9) providing more restrictive noise standard for certain lakes; inserted (10) restricting operation of motorboats by persons 12 or younger and requiring safety certificate for operators under 15; inserted (11) prohibiting person in charge of motorboat from allowing operation by persons 12 or younger or persons under 15 who do not have a safety certificate; and made minor changes in style. Amendment effective April 29, 1991.

Chapter 789 at end of (2) inserted reference to combination of drugs and alcohol; and made minor changes in style.

23-2-524. Passing rule and right-of-way. (1) When two vessels are approaching each other "head on" or nearly so (so as to involve risk of collision), each vessel shall bear to the right and pass the other vessel on its left side.

(2) When vessels approach each other obliquely or at right angles, the vessel approaching on the right side has the right-of-way.

(3) One vessel may overtake another on either side but shall grant right-of-way to the overtaken vessel.

(4) When a sailboat and motorboat are operating as to involve a risk of collision with each other, the motorboat shall yield the right-of-way to the sailboat in all cases.

History: En. Sec. 9, Ch. 285, L. 1959; R.C.M. 1947, 69-3509.

23-2-525. Restricted areas. (1) No person shall so anchor a vessel or other obstacle for fishing or pleasure purposes on any body of water over which the state has jurisdiction in such a position as to obstruct a passageway ordinarily used by other vessels.

(2) No person shall operate a pleasure vessel within 20 feet of the exterior boundary of a water area which is clearly marked by buoys or some other distinguishing device as a bathing or swimming area. Swimming areas shall be marked with white buoys having international orange markings in conformance with the uniform state waterway marking system by the owners of such areas.

(3) No person shall, without permission, operate or knowingly permit any person to operate a vessel within 50 feet of a person engaged in fishing, unless unavoidable.

(4) (a) No person shall purposely, knowingly, or negligently operate a motorboat upon the waters of this state within 100 feet of a tow-float or buoy displaying a "diver-down" symbol, red with a white slash, on a flag.

(b) The motorboat may enter the 100-foot safety zone by use of sail or oar. In an emergency or if there is insufficient water on either side of the 100-foot safety zone to pass by and stay out of the zone, the operator may use power within the zone but may not exceed no-wake speed. The burden of proving that an emergency exists or that there is insufficient water is on the operator.

(c) The fish, wildlife, and parks commission may by rule determine areas where establishment of a 100-foot safety zone is not allowed in order to provide for diver safety or the regulation of water traffic.

History: En. Sec. 10, Ch. 285, L. 1959; amd. Sec. 10, Ch. 514, L. 1973; R.C.M. 1947, 69-3510; amd. Sec. 1, Ch. 44, L. 1989; amd. Sec. 2, Ch. 28, L. 1991.

Compiler's Comments

1991 Name Change: Section 2, Ch. 28, L. 1991, directed the Code Commissioner to change the name of the Fish and Game Commission to the Fish, Wildlife, and Parks Commission wherever the name appears in [illegible] MCA. Accordingly, the name was changed [illegible] this section as directed.

23-2-526. Overloading — overpowering — noise limitations. (1) No vessel shall be loaded with passengers or cargo beyond its safe carrying capacity, taking into consideration weather and other normal operating conditions.

(2) No vessel shall be equipped with any motor or other propulsion machinery beyond its safe power capacity, taking into consideration the type and construction of such watercraft and other existing operating conditions.

(3) Except as provided in 23-2-523(9), for the purposes of 45-8-101 and 45-8-111, the operation of a motorboat or personal watercraft that emits noise in excess of 86 dbA when measured at a distance of 50 feet or emits exhaust noise in excess of 90 dbA measured 1 meter from the muffler at idle speed in accordance with the stationary sound level measurement procedure for pleasure motorboats (SAE J2005) is presumed to be a public nuisance and constitute disorderly conduct, except when otherwise lawfully operated under a motorboat racing permit issued by a political subdivision of the state.

History: En. Sec. 11, Ch. 285, L. 1959; R.C.M. 1947, 69-3511; (3)En. Sec. 2, Ch. 691, L. 1983; amd. Sec. 4, Ch. 728, L. 1991.

75-1-103. Policy. (1) The legislature, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances, and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the state of Montana, in cooperation with the federal government and local governments and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can coexist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Montanans.

(2) In order to carry out the policy set forth in parts 1 through 3, it is the continuing responsibility of the state of Montana to use all practicable means consistent with other essential considerations of state policy to improve and coordinate state plans, functions, programs, and resources to the end that the state may:

(a) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(b) assure all Montanans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(c) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences;

(d) preserve important historic, cultural, and natural aspects of our unique heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;

(e) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(f) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(3) The legislature recognizes that each person shall be entitled to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

History: En. Sec. 3, Ch. 238, L. 1971; R.C.M. 1947, 69-6503.

Cross-References
Right to clean and healthful environment, Art.II, sec. 3, Mont. Const.
Duty to maintain a clean and healthful environment, Art. IX, sec.1, Mont. Const.
Comments of historic preservation officer, 22-3-433
Renewable resource development, Title 90, ch.2.

APPENDIX B: ADMINISTRATIVE RULES

1. State Recreation Area Regulations Excerpts (ARM 12.8.200).

2. Tourist Campgrounds Rules Excerpts (ARM 16.10.700).

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STATE RECREATION AREA REGULATIONS

This brochure summarizes those provisions of the Administrative Rules of Montana regulating recreation areas administered by the Montana Department of Fish, Wildlife and Parks. The specific rules and penalties for violation may be obtained by writing:

Montana Dept. of Fish, Wildlife & Parks
1420 East Sixth Avenue
Helena, Montana 59620

WEAPONS

a Discharging firearms or shooting arrows from a bow is prohibited at all areas from April 1 to the opening day of archery hunting season. These activities are prohibited at many areas for longer periods as posted

b Discharging fireworks is prohibited at all times.

ANIMAL CONTROL

c. Pets are not permitted on swimming beaches, in sanitary facilities, or in any other area posted to exclude them. From April 1 through September 15, unless otherwise posted, all pets must be on a leash not over 10 feet long

d Livestock are prohibited in all areas, except where authorized by lease.

MOTOR VEHICLES

e All laws applying to the operation of motorized vehicles, trailers, campers, and bicycles apply in public recreation areas. Operators must obey posted speed limits and other traffic regulations

f. Licensed drivers must operate properly registered and equipped vehicles only on authorized roadways, trails, or parking areas.

CAMPING

g Camps may be established and camping vehicles parked in designated areas only. Camping is prohibited in shelter buildings.

h. Camping in designated areas is limited to 14 days in any 30-day period, except in areas posted for a 7-day limit.

i. An established camp or camping vehicle may not be left unattended for more than 48 hours. If left unattended, vehicles or camping equipment may be impounded and held pending payment of towing and/or impound ment costs

j. Groups of more than 30 persons must obtain a permit from the Department to use or camp in a state recreation area

FIRES

k Fires may be built only in established fireplaces, grills, fire rings, or camp stoves

l. FIRES MUST BE ATTENDED AT ALL TIMES AND COMPLETELY EXTINGUISHED WHEN USERS LEAVE AN AREA

PROPERTY DISTURBANCE

m. Fallen deadwood may be used for campfires in designated areas, but cutting, damaging, or removing any standing live or dead tree or other plant, geologic or historic feature is prohibited.

n. Disturbance of the topsoil cover is prohibited. No person may bury garbage, dig for worms, or allow pets to dig holes

DISORDERLY CONDUCT

o. Conduct considered to be disorderly, including quarreling, challenging to fight, fighting, use of profane or abusive language, drunkenness, indecent exposure, public urination, noisy behavior, and failure to maintain posted quiet hours in campgrounds is prohibited at all areas

p. No person may interfere with or fail to comply with a lawful order of a department employee

NIGHT CLOSURE AND RESTRICTED AREAS

q. Checkout time for posted fee camping areas is 4 00 p m. Day use recreation areas are open from sunrise to sundown, unless otherwise posted. No one may enter an area posted as closed to the public

WASTE DISPOSAL

r No litter, pollutants, or other refuse, including fish entrails and other animal parts, may be disposed of except in refuse containers provided. Sewage wastes from portable toilets or recreational vehicles may not be disposed of in recreation site toilets

GLASS CONTAINERS

s. Glass bottles or containers are prohibited on all swimming beaches and other areas posted to exclude them

COMMERCIAL USE

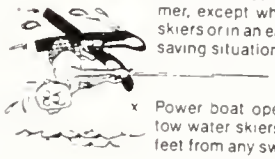
t Recreational lands may not be used for any commercial or political purpose without written authorization

BOATING AND SWIMMING

u. Boats may be launched only at established launching areas, where provided. Boat trailers must be kept in areas designated for their parking or storage.

v Swimming area buoys may not be disturbed, defaced, or relocated. Swimming is not permitted beyond these buoys. Boats may not be operated or beached in swimming areas.

w Power boats may not approach closer than 50 feet to any swimmer, except when aiding water skiers or in an emergency or lifesaving situation.



x Power boat operators may not tow water skiers closer than 50 feet from any swimmer.

y Unless posted to allow mooring, boats and other watercraft may use public boat docks for loading and unloading only. Boats may not be left unattended at public docks

RECREATION USE FEES

z No one may camp at or enter a recreation site at which use fees are collected without first paying the appropriate use fee

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16.10.706 WATER SUPPLY (1) An adequate and potable supply of water must be provided in each tourist campground or trailer court. Where a public water supply of satisfactory quantity and pressure is available, and the owner agrees to provide service, connection must be made thereto and its supply used exclusively. When a satisfactory existing public water supply is not available, a private or public water supply system may be developed and used as approved by the department.

(2) A common watering station is required in each tourist campground or trailer court, except those in which each trailer space or campsite is provided with an individual water service connection. A watering station shall consist of at least a water hydrant and the necessary appurtenances and must be protected against the hazards of backflow, back siphonage and hose contamination. Watering stations must be located so as to eliminate the possible use of the hose for sewage holding tank flushing.

(3) If facilities for individual water service connections are provided, the following requirements apply:

(a) Riser pipes provided for individual water service connections must be so located and constructed that they will not be damaged by the parking of trailers. Protection may consist of posts, fences, or other permanent barriers.

(b) Water riser pipes must extend at least 4 inches above ground elevation. The pipe size must be at least three-quarters of an inch.

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(less than 20 psi measured at the extremity of the distribution line during peak usage).

(7) Extension, alteration, repair, or replacement of water distribution systems, or development of new water supply systems must be in accordance with ARM 16.20.401 through 16.20.405.

(8) The department hereby adopts and incorporates by reference the provisions of ARM 16.10.707(6)(a), which set forth a test for pipe leakage; ARM 16.20.201 through 16.20.207, stating maximum allowable contaminant levels for public water supplies; and ARM 16.20.401 through 16.20.405, stating requirements for public water and sewer plans, cross connections, and drilling of water wells. Copies of ARM 16.10.707(6)(a), ARM 16.20.201 through 16.20.207, and ARM 16.20.401 through 16.20.405 may be obtained from the Food and Consumer Safety Bureau, Department of Health and Environmental Sciences, Cogswell Building, Helena, Montana 59620. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/82; AMD, 1982 MAR p. 1104, Eff. 5/28/82.)

16.10.707 SEWAGE SYSTEM (1) An adequate and safe sewage system must be provided in each tourist campground or trailer court for conveying, treating and disposing of all sewage. Where a public sewage treatment and disposal system of adequate capacity is available, and the owner agrees to provide service, connection must be made thereto and its services used exclusively. When a public sewage system is not available, a private or public system may be developed and used as approved by the department and health authority. Such system must be designed and constructed in accordance with ARM 16.16.302, 16.16.304, or 16.16.305, whichever is appropriate. Where a local board of health has adopted a regulation governing individual sewage treatment and disposal systems, the more stringent requirement will apply.

(2) A sanitary station is required in each tourist campground which provides trailer space for self-contained trailers, except the following:

(a) Where each trailer space is provided with an individual sewer riser.

(b) Where a sanitary station is available for public use on a full-time basis within a reasonable distance from the tourist campground.

(c) Where installation of a sanitary station is not feasible due to lack of electricity, water under pressure, or other considerations; and where the campground is designed for use only by tent campers and use by travel trailers is not expected, the requirement for a sanitary station may be waived.

(3) A sanitary station must be provided in the ratio of

one for every 100 trailer spaces lacking individual sewer risers or fraction thereof.

(4) A sanitary station shall consist of at least a 4-inch sewer riser pipe connected to the trailer court or tourist campground sewage system surrounded at the inlet end by a concrete apron at least 4 feet square sloped to the drain and provided with a suitable self-closing hinged cover and a water outlet with approved anti-back siphoning devices connected to the trailer court or tourist campground water supply system to permit periodic washdown of the immediate adjacent area. Signs must be placed at such locations stating the water is unsafe for drinking.

(5) If facilities for individual sewer connections are provided, the following requirement shall apply:

(a) The sewer riser pipe shall have a 4-inch diameter and shall be so located on the trailer space that a sewer connection to the trailer drain outlet will approximate a vertical position. It must be separated from the water riser by at least 6 feet at finished grade.

(b) Surface drainage must be diverted away from the riser.

(6) A sewer service lateral must be constructed as follows:

(a) A sewer service lateral must be water tight at all points, tested by filling with water or other equivalent test. A sewer service lateral required to be constructed of schedule 40 PVC, schedule 40 ABS, or standard weight cast iron pipe must be tested under pressure of at least a 10-foot head of water for a minimum of 15 minutes, or other equivalent test.

(b) Pipe size must be a minimum of 4 inches in diameter.

(c) A sewer service lateral must be sloped to maintain a 2-foot/second flow velocity (1.2% slope for 4-inch line).

(7) An operator of a public sewage treatment and disposal system serving a tourist campground or trailer court must be certified in compliance with Title 37, Chapter 42, MCA.

(8) A sewage treatment and disposal system must be deemed to ave failed and require replacement or repair if any of the following conditions occur:

(a) The system refuses to accept sewage effluent at the rate of application.

(b) Sewage effluent seeps from or ponds on or around the system.

(c) Effluent from the sewage treatment and disposal system contaminates a potable water supply or state waters.

(d) The sewage system is subjected to mechanical failure, including electrical outage, collapse or breakage of a septic tank, lead line, or drainfield line.

(9) Extension, alteration, or replacement of any sewage treatment and disposal system must be in accordance with ARM 16.20.401 and 16.20.402.

(10) The sewer connection shall have a nominal inside diameter of at least 3 inches and the slope of any portion thereof must be at least 1/4 inch per foot. The sewer connection shall consist of one pipe line only, without any branch fitting. Each joint must be watertight.

(11) All materials used for sewer connections must be corrosion resistant, non-absorbent and durable. The inner surface must be smooth.

(a) An exception to the requirement of the foregoing sentence is that "flex hose" may be used for making the sewer connection only in a tourist campground and only when the connection will be made for 14 days or less.

(12) Provisions must be made for plugging or capping the sewer riser pipe with a tamper resistant type cap when a trailer does not occupy the space. Such cap must provide an air tight seal.

(13) No liquid wastes from sinks, showers, or baths may be allowed to accumulate on the ground surface. Such waste must be discharged into the sewage treatment and disposal system serving the trailer court or tourist campground or into an alternate system approved by the department and health authority.

(14) The department hereby adopts and incorporates by reference the provisions of ARM 16.16.302, 16.16.304, and 16.16.305, setting standards for sewage treatment and disposal systems; and ARM 16.20.401 and 16.20.402, setting requirements for public water and sewer plans and cross connections. Copies of ARM 16.16.302, 16.16.304, 16.16.305, 16.20.401 and 16.20.402 may be obtained from the Food and Consumer Safety Bureau, Department of Health and Environmental Sciences, Cogswell Building, Helena, Montana 59620. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/72; AMD, 1982 MAR p. 1106, Eff. 5/28/82.)

16.10.710 SOLID WASTE--STORAGE AND DISPOSAL (1) The storage, collection and disposal of solid waste in the tourist campground or trailer court must be so conducted as to create no health hazards, rodent harborage, insect breeding areas, accident or fire hazards or air pollution.

(2) All solid waste must be stored in galvanized flytight, watertight, rodent-proof containers or in other suitable containers with secured lids which must be located

not more than 150 feet from any trailer space or campsite. Containers must be provided in sufficient number and capacity to properly store all solid waste between collections.

(3) A solid waste collection stand must be provided for each solid waste container. A container stand must be designed so as to prevent tippage, to minimize spillage and container deterioration and facilitate cleaning.

(4) All solid waste containing garbage must be collected at least weekly. Where suitable collection service is not available from municipal or private agencies, the owner or operator of the tourist campground or trailer court shall provide this service. All solid waste must be collected and transported in a covered vehicle or covered containers to a solid waste disposal facility licensed by the department. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/72; AMD, 1982 MAR p. 1109, Eff. 5/28/82.)

16.10.711 NOXIOUS PLANT AND ANIMAL CONTROL (1) The grounds, buildings and structures of a tourist campground or trailer court must be maintained free of harborage for insects, rodents, and other vermin. Extermination methods and other measures to control insects and rodents shall conform with the requirements of the health authority.

(2) All areas must be maintained free of accumulations of debris or standing water which may provide rodent harborage or breeding places for flies, mosquitoes and other pests.

(3) Where potential for rodent infestation exists, storage areas must be maintained so as to prevent rodent harborage; lumber, pipe and other building materials must be stored neatly at least one foot above the ground.

(4) Where the potential for insect and rodent infestation exists, any skirting of trailers must be of a type and construction which will not provide harborage. Where trailers are skirted, an access opening must be provided near service connections. The growth of brush, weeds and grass shall be controlled to prevent harborage of noxious insects and other vermin. Tourist campgrounds and trailer courts must be so maintained as to prevent the growth of noxious weeds considered detrimental to health. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/72; AMD, 1982 MAR p. 1109, Eff. 5/28/82.)

16.10.715 GUEST REGISTRATION (1) The licensee of a tourist campground shall maintain a register that must be preserved for at least 6 months, be made available to the department and health authority, and record:

(a) The name and permanent address of each trailer space and campsite occupant.

(b) The make, model and license number of each trailer and tow vehicle.

(c) The date of arrival and departure for each trailer and vehicle and its occupants. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/72; AMD, 1982 MAR p. 1111, Eff. 5/28/82.)

16.10.716 ANIMALS RUNNING AT LARGE (1) The licensee of a tourist campground or trailer court shall not allow a person in charge of a dog, cat, or other pet animal to permit it to run at large or to commit any nuisance within the limits of any tourist campground or trailer court. Any pet animal must be limited to the area of the tenant's lot, unless the animal is leashed. The tourist campground or trailer court licensee or manager is responsible for the containment of any pet animal and any nuisance caused by a pet animal. (History: Sec. 50-52-102 MCA; IMP, Sec. 50-52-102 MCA; Eff. 12/31/72; AMD, 1982 MAR p. 1112, Eff. 5/28/82.)

16.10.717 SERVICE BUILDINGS AND OTHER SERVICE FACILITIES A central service building containing the necessary toilet and other plumbing fixtures specified shall be provided in each tourist campground as follows:

(1) Toilets are required at each tourist campground which provides campsites or trailer spaces for dependent trailers.

(2) Toilets are required in each tourist campground providing parking space for independent trailers only, in the ratio of one toilet for each sex for every 100 spaces or fraction thereof.

(3) A lavatory and janitorial sink is required in any service building provided with running water.

(4) A service building, where required, must be conveniently located within a radius of 300 feet from all trailer spaces or campsites to be served.

(5) Toilets and sinks, where required, shall be provided in accordance with Table I below.

(a) When a tourist campground requiring a service building is operated in connection with a resort or other business establishment such as rental cabins or a dude ranch, the number of sanitary facilities for such a business establishment must be in excess of those required by the table for trailer spaces and must be based on the total number of persons using such facilities, figured at 3 persons per trailer space or campsite.

(b) Where only toilets are required, privies will be considered only if water-carried sewage disposal is not feasible.

TABLE I

No. of Dependent Parking Spaces	Toilets Men	Toilets Women	Urinals Men	Lavatories Men	Lavatories Women	Other Fixtures
1 - 15	1	1	1	1	1	At least one janitor sink per service building
16 - 30	1	2	1	2	2	
31 - 45	2	2	1	3	3	
46 - 60	2	3	2	3	3	
61 - 80	3	4	2	4	4	
81 - 100	3	4	2	4	4	

(6) A service building must be maintained as follows:

(a) Each sink, toilet, and other equipment must be kept in a clean and sanitary condition and in good repair. Each must be cleaned and sanitized at least daily, and more frequently if necessary to maintain a high standard of cleanliness.

(b) Floors must be swept and mopped at least twice weekly and more frequently if necessary.

(c) Each wall and any other exposed surface such as a storage shelf or window must be cleaned at least once weekly.

(d) Toilet tissue must be provided and conveniently located in each toilet room.

(7) Each cabin, cooking shelter and other building must be maintained as follows:

(a) Each cooking or shelter house for common use must be cleaned after each day's use during the operating season.

(i) Cooking, eating, and drinking utensils, if provided, must be in good repair and must be washed and sanitized by tourist campground employees after usage by campers.

(b) Any cabin, tent, or other structure provided by the management must be thoroughly cleaned after being occupied.

(i) Each mattress, when provided, must be covered with a washable cover and must be kept in clean and sanitary condition.

(ii) Bedding, when provided, must be clean, sanitary, and in good repair. (History: Sec. 50-52-102 MCA; IMP, 50-52-102 MCA; NEW, 1982 MAR p. 1114, Eff. 5/28/82.)

Sub-Chapter 8 reserved

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APPENDIX C: LAND CLASSIFICATION GUIDELINES

1. State Park System Criteria (ARM 12.8.107).

2. Land Classification Manual Excerpt (10/20/88).

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Sub-Chapter 1

State Park System

12.8.101 STATEMENT OF GENERAL CRITERIA (1) To provide for the orderly and efficient administration of existing components and future acquisitions, classification criteria have been established describing the purposes and physical characteristics of the various categories. Such criteria determine appropriate development and management procedures. They are used as standards for acquisition, designation, and redesignation of park system components and as guides to funding. Following are categories, criteria, and procedures for all existing and future areas administered under the parks system. (History: Sec. 23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72; AMD, 1977 MAR p. 946, Eff. 11/26/77.)

12.8.102 STATE PARKS (1) Purpose. To provide high-quality recreation experience distinctive and notable enough to attract people on a state, regional, or national basis.

(2) Description. Open-space areas of unique scenery or other outstanding natural features of an aesthetic, historical, geological, archaeological, or scientific nature. State parks will be selected on the basis of these inherent characteristics without regard to geographic location.

(3) Development and management. Development of roads and desirable facilities will be planned with precise and sensitive regard for all natural features and without impingement upon the visitors' aesthetic and intellectual sensibilities. Management will be directed toward retention of state parks in as near a natural condition as possible, without impairment of ecological features and values. (History: Sec. 23-1-102 MCA; IMP, 23-1-102 MCA; Eff. 12/31/72.)

12.8.103 STATE RECREATION AREAS (1) Purpose. To provide a broad selection of outdoor recreation opportunities in a natural setting which may be used by large numbers of people.

(2) Description. Contain natural or artificial resources which provide outdoor recreational opportunities which will attract visitors from beyond the local area. They may be located in areas which have serious deficiencies in public outdoor recreation facilities, provided that state recreation areas should not be furnished in lieu of municipal, county, or federal facilities.

(3) Development and management. Protection of the natural environment and aesthetic qualities should be paramount except development for intensive use may require alteration of the natural environment, although the aesthetic

qualities of the areas will be retained to the greatest degree possible by careful planning and construction of facilities. (History: Sec.23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72; AMD, Eff. 1/13/76.)

12.8.104 STATE MONUMENTS (1) Purpose. To preserve, protect, and enhance objects, features, or places of historical, geological, archaeological, or scientific importance, including commemoration of outstanding persons or events.

(2) Description. Sites of optimum form and size for the protection and enhancement of the objects, features, or places concerned, including adequate space for parking, if appropriate, and other accommodations for anticipated day-use.

(3) Development and management. Standard facilities will be access, parking, sanitation, and water. Other service facilities may be added if required. Overnight camping will ordinarily not be allowed. Development may also include restoration of historical structures, etc., and installation of protective devices. Maximum benefit to visitors may be achieved by providing museums, outdoor dioramas, and other interpretive exhibits. (History: Sec. 23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72.)

12.8.105 STATE RECREATIONAL WATERWAYS (1) Purpose. To protect and enhance the natural and historical values of state waterways, and to provide opportunity for enjoyment of these values.

(2) Description. Rivers or streams, generally undeveloped, possessing outstanding scenery or important historical features and susceptible to increasingly heavy recreational use.

(3) Development and management. Accommodations for day-use, camping, floating, fishing, or other recreational activities will be provided. Public areas for lunch stops and overnight camping will be conveniently distributed along the course, allowing leisurely floats from one area to the next in 4 hours or less. Development will also include wells for drinking water where necessary. Management will primarily involve maintenance of public areas and identification of visitor sites and points of historical or geological interest. (History: Sec. 23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72.)

12.8.106 STATE RECREATION ROADS AND TRAILS (1) Purpose. To control the use and development of certain Montana roads and trails whose scenic and cultural attributes are of high recreational value warranting formal protection.

(2) Description. Roads or trails along or through high-quality recreational resources where recreational opportunities are dispersed. The roads or trails may be under the control of a private person or other governmental agency or subdivision if there is no conflict in uses, such as a highway with relatively little traffic.

(3) Development and management. Basic user conveniences, informational signing, and access to adjacent recreational opportunities may be appropriately located along the road or trail. Natural environment and aesthetic qualities should be cautiously protected in designation of state recreation roads and trails. (History: Sec. 23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72; AMD, 1977 MAR p. 946, Eff. 11/26/77.)

12.8.107 STATE FISHING ACCESS SITES (1) Purpose. To provide permanent public access to high-quality rivers, streams, and lakes.

(2) Description. Areas adjacent to high-quality fishing waters accessible by an existing or acquired public right-of-way and of adequate size to permit practical use of the waters concerned for fishing and, when appropriate, other water-based recreation.

(3) Development and management. Accommodations will consist of facilities for day-use, and in certain cases, overnight camping. Boat-launching ramps, road-building, and fencing may be necessary. Management will involve proper identification of the site and maintenance of public right-of-way and service facilities. (History: Sec. 23-1-102 MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72.)

Sub-Chapter 2

Public Use Regulations

12.8.201 GENERAL POLICY (1) The following regulations shall govern the use of all lands or waters under the control, administration, and jurisdiction of the Montana department of fish, wildlife and parks. These areas are hereinafter referred to as "designated recreation areas". Regulations governing each specific area will be posted in that area. Lands and waters controlled or administered by the department may be used for recreational or other purposes subject to the prohibitions as set forth in these or other applicable rules, or otherwise provided by law. (History: Sec. 23-1-106, 87-1-303, MCA; IMP, Sec. 23-1-102 MCA; Eff. 12/31/72; AMD, 1979 MAR p. 318, Eff. 3/30/79.)

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FISHING ACCESS AREA

Definition: A relatively spacious area of land normally greater than 20 acres providing both access to waters for fishing or boating and other more dispersed on-site fishing or recreation opportunities. Public access to these areas is by a public road with limited number of developed parking spaces, little if any, site protection and development except for road and parking facilities. The area may or may not have boat ramps but all provide direct water access for fishing or other on site recreation opportunities.

1. Description

   a. Features - shall be a relatively natural setting. The area should be capable of accommodating dispersed fishing opportunities.

   b. Size - shall be a relatively spacious tract of land with maximum water frontage to accommodate dispersed fishing opportunities. Size shall preferably be from 20-100 acres with the property primarily paralleling or including the water body. They will not normally exceed 100 acres.

   c. Location - shall normally be selected to take advantage of adjacent developments such as public highways, causeways, diversion dams, and bridge crossings which provide opportunities for public lake or stream access. Compatibility with adjacent land uses will be considered.

   d. Ownership - shall be in fee title whenever possible or operated by lease or cooperative management agreement for a term of at least 25 years or longer.

   e. Priority - shall be selected as opportunities arise, with emphasis on areas where good fishing waters and high demand for public fishing opportunities exists.

2. Development

   a. Opportunities - shall be developed primarily to optimize dispersed fishing opportunities afforded by the area. Secondary opportunities may include boating, hunting, swimming, picnicking, wildlife observation and natural and cultural preservation. Opportunities for offroad vehicle use, camping and large social gatherings shall normally not be provided although may be accommodated in some areas.

b. Development Intensity - shall normally provide for low-density use and be limited to that necessary for site protection, visitor access, basic sanitation and user safety.

c. Facilities - shall normally include: entrance and boundary signing, perimeter fencing if necessary, access road or roads, limited developed parking and boat access areas. The site may or may not have a boat ramp. Durability, low maintenance and economy shall be emphasized.

d. Management Plan - shall define specific management goals and objectives the area is established to achieve.

3. Operation

a. Resource Management - shall enhance fishing especially dispersed fishing and compatible secondary opportunities while maintaining environmental quality.

b. Operation and Maintenance - shall provide the minimum services necessary and only those which are compatible with fish and wildlife resource protection.

c. Visitor Services - information and interpretation shall be provided only when necessary, preferably through off-site programs, to advise and assist the visitor to properly and safely use and understand the resource.

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STATE NATURAL PARK

Definition: An area of sufficient size to preserve the natural integrity of an outstanding scenic, geological, ecological, vegetative, wildlife or paleontological resource of statewide or national significance; and which provides for research, education, aesthetic enjoyment, and compatible dispersed or passive recreation opportunities.

1. Description

   a. Features - shall encompass outstanding examples of natural scenic beauty or natural features of statewide or national significance which possesses interpretive, educational, scientific or inspirational value. Natural parks shall be capable of providing dispersed and passive recreation opportunities.

   b. Size - shall be of sufficient size to preserve the integrity of the outstanding resource and accommodate visitor needs.

   c. Location - shall be determined by the occurrence of outstanding scenic or natural features.

   d. Ownership - shall normally be in fee title to preserve the integrity of the resource. Conservation easements may be used on portions of areas not necessary for public access. Adequate public access shall be provided, the amount and type of which shall be consistent with site-specific management objectives.

   e. Priority - shall be selected to provide a balanced and complete representation of outstanding natural features of Montana's major natural history themes in coordination with other agencies. Selection priority shall be determined by significance, thematic representation in public ownership, degree of integrity, and degree to which the resource is endangered. No theme may be regarded as complete so long as its prime site remains outside of public ownership.

2. Development

   a. Opportunities - shall be developed primarily to optimize the interpretive, educational and inspirational opportunities of the site. Secondary recreation opportunities may be offered provided there is a demonstrated demand, they are compatible with resource preservation objectives, and they facilitate appreciation of the resource.

b. Development Intensity - Development, where appropriate, shall provide for only low-density dispersed use to enhance opportunities for solitude and appreciation of the resource. A minimum of 90% of the land shall normally be left in a natural condition.

c. Facilities - shall be limited to those necessary for adequate control and protection of the resource. Development shall not encroach upon, damage, or impair the primary scenic or natural feature. Facilities shall normally include as a minimum: entrance and boundary signing, perimeter fencing, parking, public access and interpretive trails and devices.

d. Management Plan - shall define the specific management objectives the park is established to achieve.

3. Operation

a. Resource Management - shall emphasize the preservation and perpetuation of the outstanding scenic or natural feature. Mining and consumptive activities are generally prohibited.

b. Operation and Maintenance - shall provide services which ensure the health and safety of visitors and provide for their inspiration, enjoyment and use of park resources.

c. Visitor Services - information and interpretation shall be emphasized to enhance visitor understanding and appreciation of the resource being preserved.

STATE RECREATION AREA

Definition: A relatively spacious area of natural character and of the best available scenic quality, usually associated with a water resource, and which may be modified as necessary to provide a variety of active resource-oriented recreation opportunities serving priority regional and statewide needs.

1. Description

   a. Features - shall be in a predominantly non-urban, relatively natural setting of the best available scenic quality. Physical features may be modified as necessary to provide a broad selection of resource-oriented recreation opportunities for large numbers of people. Areas shall be capable of attracting significant regional and statewide visitation. They shall normally be associated with a quality water resource suitable for recreational use.

   b. Size - shall normally include a minimum land area of 300 acres but may include less in the case of a recreation resource of statewide or national significance. An area associated with a single lake, river or public road need not be one contiguous land unit if it exceeds minimum acreage in total and is managed as a unit. An area associated with a trail must be a contiguous land unit.

   c. Location - shall be within 1 1/2 hours driving time of one or more major population centers except in the case of an extraordinary recreation resource of statewide or national significance. Areas shall be selected which compliment but do not duplicate or supplant federal, local and private recreation developments and programs within the area.

   d. Ownership - shall normally be in fee title to a public agency. A lease or cooperative management agreement for a term of 25 years or longer may be used for operation of recreation facilities and programs on lands controlled by other public agencies. Vehicle access shall be provided by all-weather public road.

   e. Priority - shall be selected to meet priority regional or statewide outdoor recreation needs in conformance with the statewide comprehensive outdoor recreation plan.

2. Development

a. Opportunities - shall be developed to optimize the resource-oriented recreation opportunities of the area and provide a variety of facilities and activities within a natural setting. Normally, recreation development shall not include artificial features such as playfields, golf courses, swimming pools or other facilities for serving primarily urban recreation opportunities.

b. Development Intensity - shall normally provide for high-density use within the limits of acceptable change established by management in accordance with the character of the resource. A minimum of 50% of the land shall normally be left in a natural condition.

c. Facilities - shall be developed to respond to a full range of recreational activities and meet special user needs while minimizing disturbance to the natural environment. Facilities shall normally include as a minimum: entrance and boundary signing, perimeter fencing, access roads, parking, designated day-use areas and campsites, sanitary and boating facilities; drinking water and garbage service.

d. Management Plan - shall define the specific management objectives the area is established to achieve. All park land shall be zoned to provide a framework for decisions on use and development.

3. Operation

a. Resource management - shall emphasize a diversity of recreation opportunities while providing for protection and enhancement of the natural environment.

b. Operation and Maintenance - shall provide the optimum services necessary to promote health, safety, use and enjoyment of park resources and facilities.

c. Visitor Services - information and interpretation shall be provided where appropriate to advise and assist the visitor to have a quality recreation experience and better understanding of the recreation resource.

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APPENDIX D: PLANNING PROCESS

1. Planning Flow Chart
2. MEPA Process Flow Chart
3. FWP Construction Project Procedure

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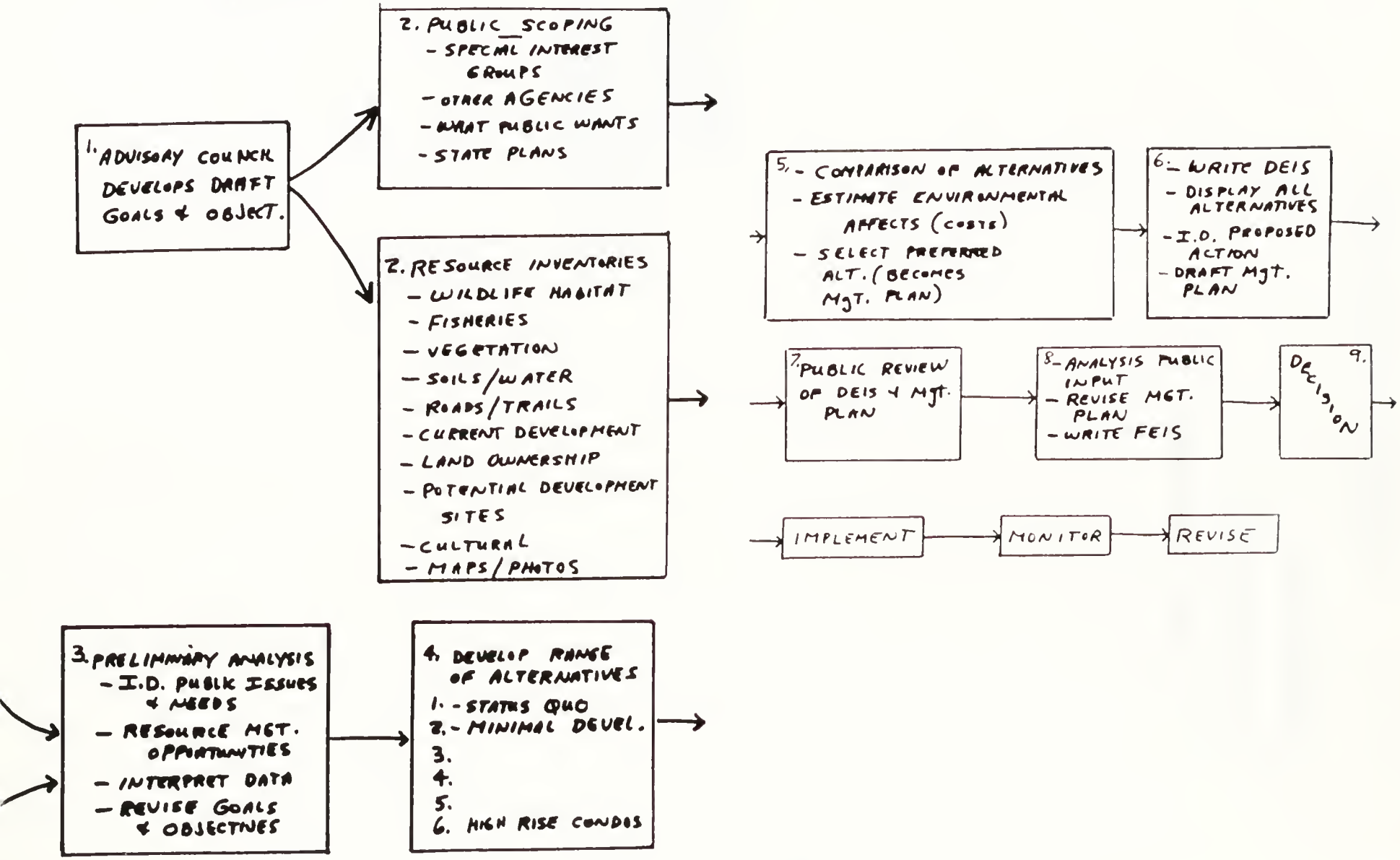
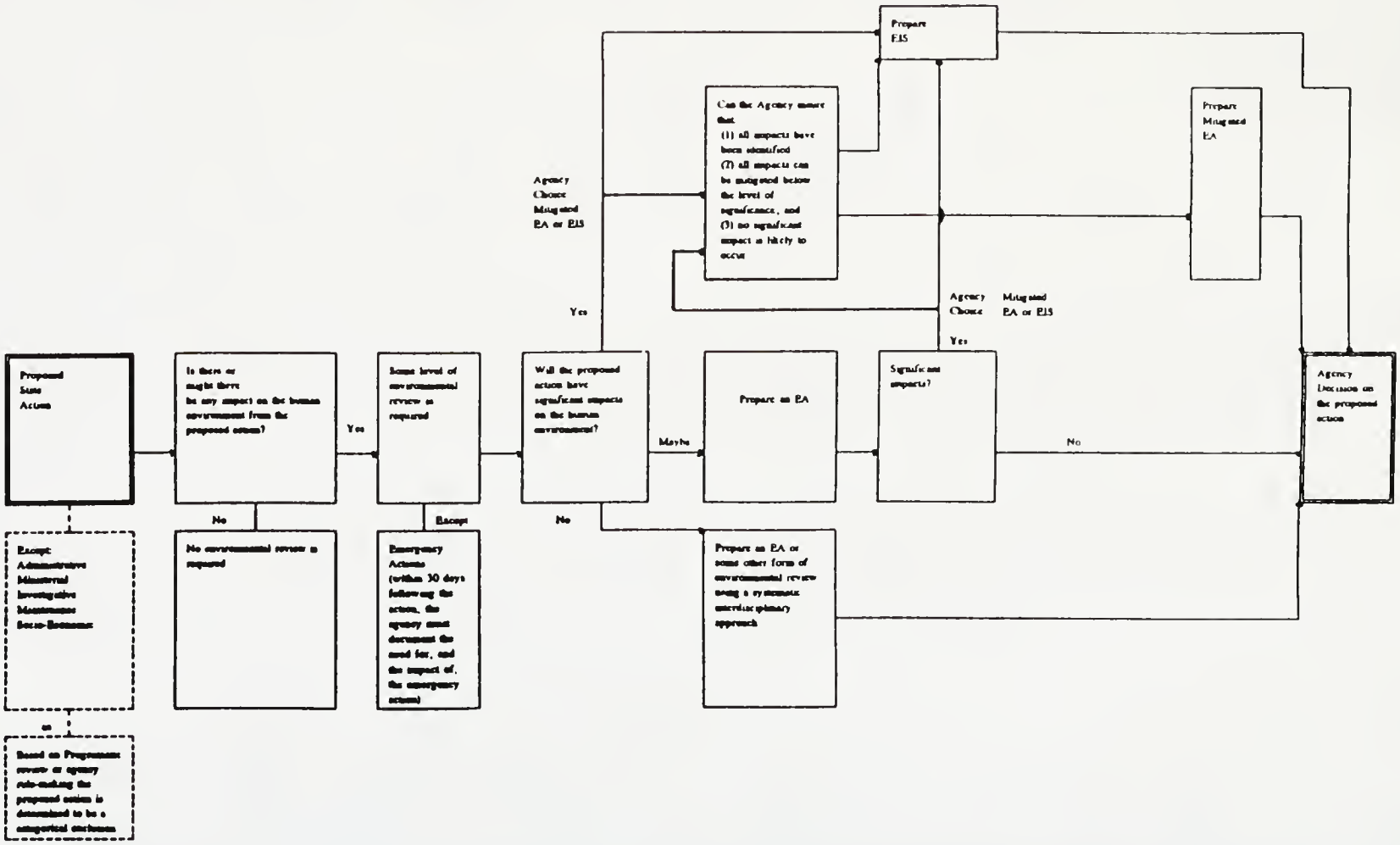
PLANNING/EIS FLOW CHART



MEPA PROCESS FLOWCHART



Construction Project Procedure

- ☐ PROJECT NAME
- ☐ PROJECT NUMBER
- ☐ TARGET DATE FOR COMPLETION
- ☐ ORIGINAL SITE VISIT
- ■ COST ESTIMATE PREPARED
- ■ LAND ENCUMBRANCES CHECKED
- ☐ MASTER SITE PLAN PREPARED
- ☐ REGIONAL APPROVAL OF PLAN
- ☐ DIVISION ADMINISTRATOR APPROVAL OF PLAN
- ☐ SITE SURVEY COMPLETED
- ☐ SITE SURVEY PLOTTED
- ☐ ENVIRONMENTAL STATEMENT PREPARED
- ☐ ENVIRONMENTAL STATEMENT DISTRIBUTED
- ☐ STREAM PRESERVATION PERMIT APPLICATION
- ☐ STREAM PRESERVATION PERMIT RECEIVED
- ☐ CORPS OF ENGINEERS PERMIT APPLICATION
- ☐ CORPS OF ENGINEERS PERMIT RECEIVED
- ☐ LAKE SHORE PROTECTION PERMIT APPLICATION
- ☐ LAKE SHORE PROTECTION PERMIT RECEIVED
- ☐ FLOOD PLAIN PERMIT APPLICATION
- ☐ FLOOD PLAIN PERMIT APPLICATION RECEIVED
- ☐ HEALTH DEPARTMENT TURBIDITY PERMIT APPLICATION
- ☐ HEALTH DEPARTMENT TURBIDITY PERMIT RECEIVED
- ☐ STORM RUNOFF PERMIT APPLICATION
- ☐ STORM RUNOFF PERMIT RECEIVED
- ☐ PRIME LAND INFORMATION RECEIVED
- ☐ WETLANDS PERMIT
- ☐ OPEN MINE PERMIT
- ☐ HEALTH AND SANITATION REVIEWS OR PERMITS
- ☐ SIGN REQUISITIONS PREPARED
- ☐ ROAD APPROACH PERMIT
- ☐ SIGN ERECTION PERMIT
- ☐ SUBDIVISION REVIEW
- ☐ ZONING REVIEW OR CHANGE
- ☐ COUNTY WEED BOARD PERMIT
- ☐ ARCHAEOLOGICAL INVESTIGATION
- ☐ HISTORIC PRESERVATION OFFICE CLEARANCE
- ☐ CONSULTANT APPOINTED
- ☐ HYDROGEOLOGIST
- ☐ FEDERAL PROJECT APPLICATION
- ☐ FEDERAL PROJECT APPROVED
- ☐ INTERNAL REVIEW OF PLANS AND SPECIFICATIONS
- ☐ A/E REVIEW OF PLANS AND SPECIFICATIONS
- ☐ A/E APPROVAL OF PLANS AND SPECIFICATIONS
- ☐ ADVERTISE FOR BIDS
- ☐ PRE BID CONFERENCE
- ☐ BID OPENING
- ☐ NOTICE TO PROCEED
- ☐ SUCCESSFUL CONTRACTOR
- PRE CONSTRUCTION CONFERENCE

Montana Fish, Wildlife & Parks

APPENDIX E: PUBLIC INPUT SUMMARY

1. Public Survey Results
2. Summary of Written Comments and Public Meeting Comments
3. Chain of Lakes Advisory Council Members and Organizations Represented

In response to each statement on this survey, please mark the box which most closely reflects your feelings. Additional comments are welcome. Please add a page if you need more room.

Strongly Agree | Agree | Feel Neutral | Disagree | Strongly Disagree

1. The Chain of Lakes can provide a wide variety of camping experiences. What kind of camping opportunities would you like to see?

The Chain of Lakes should...

A. ...provide a wide variety of camping opportunities from developed campgrounds to undeveloped dispersed sites for one family.
N=600 %: 32 | 31 | 7 | 13 | 17
63% 30%

B. ...provide only undeveloped dispersed campsites (except for the currently developed areas on McGregor and Middle Thompson Lakes).
N=502 %: 28 | 21 | 12 | 28 | 10
49% 38%

C. ...allow camping only in designated campsites, both dispersed campsites and developed camp grounds.
N=508 %: 29 | 28 | 8 | 14 | 21
57% 35%

D. ...provide hike-in and/or boat-in campsites.
N=511 %: 23 | 31 | 21 | 13 | 12
54% 25%

E. ...provide group-use areas for more than two or three families.
N=510 %: 15 | 40 | 17 | 14 | 15
55% 29%

F. ...have a reservation system in order for people to know that they will have a campsite.
N=505 %: 6 | 17 | 21 | 23 | 34
23% 57%

G. ...have a minimum of a campfire ring and an outhouse at all dispersed sites.
N=509 %: 30 | 40 | 10 | 11 | 9
70% 20%

H. ...have a pack-in/pack-out garbage policy to keep costs down.
N=514 %: 65 | 28 | 2 | 3 | 1
93% 1. 4%

Strongly Agree | Agree | Feel Neutral | Disagree | Strongly Disagree

2. What type of new facilities would you like to see in this area?

Chain of Lakes managers should...

A. ...leave the area just as it is, even though increasing use may limit camping opportunities if quality is to be maintained.
N=497 %: 29 | 23 | 12 | 27 | 9
52% 36%

B. ...build new developed campground(s).
N=499 %: 18 | 27 | 13 | 22 | 30
35% 52%

C. ...place any new campground(s) on the following lake(s) See back page

D. ...provide improved facilities for the handicapped and elderly.
N=511 %: 17 | 39 | 26 | 11 | 7
56% 18%

E. ...improve access roads.
N=506 %: 12 | 33 | 20 | 18 | 17
45% 35%

F. ...develop any new campground(s)

on private land with private money as a recreation business.
N=493 %: 7 | 24 | 21 | 19 | 29
31% 48%

on public land with private money and run as a private business with a land rental fee paid to the management agency.
N=491 %: 3 | 14 | 15 | 26 | 42
17% 68%

on public land with public money.
N=488 %: 8 | 34 | 16 | 16 | 27
42% 43%

on public land with public money, but contract operation by a private business (like Swan Lake and Holland Lake campgrounds).
N=486 %: 4 | 20 | 23 | 23 | 31
24% 2. 54%

Strongly Agree | Agree | Feel Neutral | Disagree | Strongly Disagree

G. ...provide money for maintenance and operations of the Chain of Lakes through

user fees for all use.
N=486 %: 12 | 24 | 10 | 23 | 31
36% 54%

user fees for overnight camping.
N=481 %: 20 | 44 | 5 | 9 | 21
64% 30%

user fees for boat launching.
N=474 %: 12 | 30 | 9 | 22 | 27
42% 49%

user fees for swimming and picnicking.
N=467 %: 6 | 13 | 10 | 29 | 42
19% 71%

state income taxes instead of user fees.
N=465 %: 5 | 16 | 12 | 27 | 39
21% 66%

an alternate form of financing such as

H. ...improve or develop trails

canoe trails.
N=498 %: 14 | 28 | 25 | 14 | 19
42% 33%

hiking and horse trails.
N=500 %: 13 | 34 | 19 | 15 | 20
47% 35%

cross country ski trails.
N=503 %: 15 | 36 | 21 | 12 | 17
51% 29%

snowmobile trails to nearby mountains.
N=501 %: 6 | 25 | 24 | 19 | 26
31% 45%

four wheeler trails to nearby mountains.
N=499 %: 6 | 15 | 19 | 24 | 36
21% 60%

nature trails with interpretive information (historic, cultural, biological, etc.).
N=503 %: 16 | 32 | 22 | 11 | 20
48% 31%

3.

Strongly Agree | Agree | Feel Neutral | Disagree | Strongly Disagree

3. The area needs to encourage visitor protection and control.

Chain of Lakes managers should...

A. ...permit campfires only in designated camp sites with fire rings in order to minimize visitor-caused forest fires.
N=515 %: 46 | 32 | 4 | 10 | 7
78% 17%

B. ...prohibit discharging of firearms during the non-hunting season
N=512 %: 47 | 23 | 6 | 11 | 13
70% 24%

C. ...prohibit fireworks.
N=513 %: 56 | 25 | 10 | 7 | 3
81% 10%

D. ...provide periodic patrols by State and Federal officials or local volunteers to make sure all users are following rules and not infringing on the recreation enjoyment of others.
N=513 %: 40 | 42 | 8 | 5 | 6
82% 11%

E. ...require dogs to be kept on leash May 1-Sept. 30 in all heavily used areas.
N=508 %: 48 | 34 | 6 | 7 | 5
82% 12%

4. Use of motorized vehicles has been an issue on the Chain of Lakes. How do you feel about this?

Chain of Lakes managers should...

A. ...allow water skiing and jet skiing only on the larger lakes—McGregor, the three Thompson Lakes, Crystal, Horseshoe and Loon.
N=502 %: 33 | 38 | 7 | 8 | 15
71% 23%

B. ...large lakes where water skiing & jet skiing should not be allowed are See back page

C. ...permit only non-motorized use on some very small lakes (under 10 acres).
N=506 %: 42 | 30 | 10 | 9 | 8
72% 17%

4.

Strongly Agree	Agree	Feel Neutral	Disagree	Strongly Disagree

N= 510 D. ...where water skiing & jet skiing are permitted, limit hours to minimize conflicts with fishing and other uses.

%: 37 | 33 | 12 | 12 | 8 — 70% 20%

N= 512 E. ...allow only no-wake boating on small lakes under 20 acres such as Bootjack, Lavon and Rainbow. Trolling speeds are permitted.

%: 42 | 42 | 6 | 5 | 5 — 84% 10%

5. Land Management: Plum Creek Timber Company owns many miles of lakeshore property on these lakes. Development of this land could change the character of the area. How do you feel about this land?

To provide the best management for the entire Chain of Lakes area...

N= 496 A. ...key campsites and lake access sites should be acquired by the public.

%: 32 | 39 | 12 | 8 | 8 — 71% 16%

N= 496 B. ...key wildlife tracts should be acquired by the public.

%: 32 | 28 | 16 | 13 | 11 — 60% 34%

N= 476 C. ...control should come through voluntary land-use control (conservation easements).

%: 16 | 40 | 24 | 11 | 10 — 56% 21%

N= 474 D. ...control should come through local zoning.

%: 8 | 19 | 26 | 25 | 23 — 27% 48%

N= 477 E. ...no land use controls are needed.

%: 9 | 13 | 17 | 29 | 32 — 22% 61%

6. Grazing has been an issue in this area. How do you feel about this?

Chain of Lakes managers...

N= 510 A. ...should allow grazing by domestic livestock outside campsites and developed areas.

%: 12 | 36 | 19 | 13 | 20 — 48% 33%

N= 487 B. ...should not allow grazing by domestic livestock anywhere in the Chain of Lakes area

%: 23 | 14 | 17 | 25 | 21 — 37% 46%

7. Do you currently use the Chain of Lakes for recreation? 90% Yes 10% No

8. How do you use this area?
(Check as many boxes as appropriate)

66% Camping 85% Fishing 56% Swimming
52% Hunting 39% Hiking 57% Picnicking
15% Cross Country Skiing 31% Canoeing
13% Ice Skating 9% Horseback Riding
14% Snowmobiling 16% Four Wheeling
23% Water Skiing 7% Jet Skiing
54% Wildlife Viewing and/or Photography
Other Uses _____

9. How many days each year do you spend using this area for recreation? $\bar{x}$ = 34 days
Std Dev. 62 days

10. What do you like most about the Chain of Lakes? What brings you back for more visits?

_____

11. What do like least about this area? What would you change? _____

12. Do you own property in the Chain of Lakes area?
18% Yes 82% No

13. When recreating at the Chain of Lakes, what kind of group are you usually with?
82% Alone 69% Single Family 23% Multi-family Group

14. Please list your
$\bar{x}$ Age = 48 yrs Std Dev = 13 yrs ☐ Sex ☐ Zip Code → 78% Male, 22% Female

N= 501
59901: 40%
59923: 30%
59912: 5%
59937: 4%

15. If you want to be on the mailing list for further information, list your...

Name _____
Mailing Address _____
_____
Telephone _____

Lake	Campground Development %	No Water Skiing %
Crystal	6	13
Horseshoe	8	18
Loon	12	20
Lower T.	11	14
Middle T.	10	10
Upper T.	11	17
McGregor	12	6
L. McGregor	3	2
Rainbow	1	2
Lavon	1	2
Bootjack	<1	2
Lilypad	Ø	2
Little Loon	1	1
Leon	1	1

N=519

Chain of Lakes Advisory Council
c/o Montana Dept. of Fish, Wildlife & Parks
490 No. Meridian Road
Kalispell, Montana 59901

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Chain of Lakes

You can help match the needs of the public to the available resources!

The Thompson Chain of Lakes

Please fill out this questionnaire and mail it to the Advisory Council. Thank you!

SUMMARY OF WRITTEN COMMENTS ON DRAFT EA AND MANAGEMENT PLAN FOR THOMPSON CHAIN OF LAKES

GENERAL COMMENTS

Support Alternative #2. (20)

Prefer Alternative #1. (7)

Does not support the no action alternative

Write a complete EIS on this project - 64 form letters + (3)

LAND ACCEPTANCE

Favor acceptance of this land by the State of Montana - AC

Favor acceptance of this land by the State or Federal Government or have non-profit group run property (4)

Accept the land buy do nothing with it. (4)

Do not object with the State or Lincoln County acquiring the land and developing recreational areas around lakes that have no or limited private ownership.

Think the county should acquire the property

Think private ownership of the lakes is fine. Subdivision is a good idea. (2)

The state should not take on more responsibility or spend any more tax money they don't have. (4)

Do not want Forest Service involved in management

NAME OF AREA

Do not see a need to make these areas into a State Park. (2)

Plan title should be Chain of Lakes Management Plan in lieu of Recreation Area or State Park

Do not call the area a state park (Call a Recreation Area) - AC/HM (10)

MANAGEMENT DIRECTION

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Keep the locals in mind in developing this area, not tourists (4)

Keep level of development low

Must look at historic (recreational) use of the area (7)

Hunting, fishing and trapping should continue. (2)

Policy of "No Shooting" should be maintained at all times and posted

Develop direction for management of recreation in harmony with timber and environmental maintenance

Management of the adjacent lands should be recognized as primarily for commercial timber production. There is a real educational opportunity to educate the public about true multiple use. (2)

Any changes made in the plan should be minor that stay within the environmental protection and recreation philosophy of this alternative.

Too much emphasis on environmental concerns

Future changes to the Plan should be done only with public involvement and Homeowner involvement - HM (2)

TRANSITION

Move into transition of restructuring in Alternative #2 very slowly. (2)

Try to institute the recommendations as quickly as possible and not drag out the process over 10 to 20 years.

WEEDS

Supports implementation of a noxious weed control program - AC/HM (7)

Weed program should be developed cooperatively with adjacent land owners

FEES

Do not want to be charged fees. (3)

Implement user fees (3)

Implement a user fee for overnight camping - AC/HM (3)

No charge for day uses except boat launch fees - AC/HM (2)

No day use fees or boat launch fees

If any fees, should be commensurate with services supplied. (2)

Fees will divert people to unauthorized areas to avoid the fees.

REGULATION

Do not want regulations. (2)

ADJACENT PROPERTY CONCERNS

Clearly point out that recommendations only pertain to the former Champion International ownership plus other existing lands managed by FWP - AC/HM (3)

Want a guarantee that private property would never be condemned and can sell without interference by any state or federal organization - HM (12)

OPERATIONS

As a means of funding, divide the acreage into 10ft x 10 ft parcels, start a corporation and sell lots for whatever it takes. No one will know where his 10x10 lot is.

Encourage adopt-a-site by clubs or other service organizations who may wish to upgrade them - AC (5)

Management by a non-profit partnership formed from public and private sectors in order to encourage long-term communication, commitment, and trust among all parties associated with the Chain of Lakes.

Work with private and corporate owners within the Chain to provide consistent management of the entire area.

ROAD ISSUES

Do not close any roads (4)

All roads should remain as is, closing only those spur roads serving absolutely no purpose

Most lakes have more access than needed. Some of these roads and sites must be closed and revegetated.

Plum Creek and Champion with the USFS have easements on roads and bridges throughout the conservation land fur future logging, these easements must not be altered.

Roads to camping areas should be across conservation fund lands, and not join or be extended from roads to private lots

Closing the road segments between Horseshoe and Little Loon Lake is a good idea. (3)

Do not close the road segment between Horseshoe and Little Loon Lake - AC/HM (4)

The decision to close the road connecting Little Loon, Loon, Leon, and Horseshoe does not need to be made at this time. The document could state "ifdegradation to water quality is occurring then management actions (which include closures) would be implemented.

Retain road access to all lakes and boat launch sites

No major road improvements should be made. Some limited graveling and fixing of localized drainage problems is recommended - AC/HM (9)

Improvements to roads will be required in the near future (2)

Champion still owns the haul road on the south side of Middle and Lower Thompson Lakes and will continue to use it as an overweight off highway log hauling route. This fact should be stated in the plan.

Dust abatement on the main haul road should be addressed. As public use increases on this road the public should bear a portion of maintenance costs.

The preferred alternative proposes to move the main haul road in Section 13, T26N, R27W. This would require Champion and Plum Creek permission, and the public would have to bear the full cost for this.

Do not relocate ACM road - AC/HM (3)

Any plans to develop the south side of Middle and Lower Thompson Lakes should include plans to park vehicles off of the road.

Maintain existing road access to existing dispersed sites near the outlet to Thompson River - AC (2)

Winter use should be addressed in that many people ice fish Middle and Lower Thompson Lakes, and due to snow berms, have little room to park safely off the traffic lane.

Hwy 2 should be mentioned in the plan.

The KM road should be planned for as it is planned to be a future state road

The management plan should address signage and speed limits. (2)

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CAMPING SITE ISSUES

Do not increase number of campsites in area (2)

Do not close remote camping sites (2)

Too many of the overnight sites have been eliminated

Maintain the current number of dispersed sites - AC/HM (4)

Keep open those areas that have been heavily used.

Do not close anything until its replacement can be funded. (2)

No existing dispersed sites should be closed without documentation of a valid environmental reason through the MEPA process. Then if sites are closed, alternative sites should be made available - AC/HM (4)

No existing dispersed site should be closed without documentation of a valid environmental reason and after all possible solutions have been exhausted

The additional campsites along the lakes should continue for overnight camping by self contained or porta-potty users - AC/HM (3)

Eliminate many of the overnight occupancy. (2)

Eliminate random camping

No campground must be developed in areas frequented by threatened, endangered, or sensitive species of waterfowl or birds.

Pull camping areas back from the waters edge to control erosion and surface runoff.

Leave camp sites dispersed as much as possible, but combine sites when necessary to improve human waste disposal (2)

Accommodate increasing visitor use through additional campground construction in lieu of allowing more dispersed camp sites - AC/HM (3)

Establish designed improved campgrounds. (2)

Develop proper facilities for overnight campers with proper monitoring and maintenance

Formalized and properly developed campgrounds should be developed on the smaller uninhabited lakes.

Overnight facilities should be made accessible to someone pulling a reasonably sized trailer.

Canoe/hike in camping sites should be increased.

Like canoe in/hike in camping sites (3)

Oppose developing campgrounds on lakes with current moderate use until underdeveloped lakes are of equal use

Use volunteers as camp nosts.

Campgrounds need to be supervised (2)

Hire personnel to monitor the area to ensure fire safety, and sewage, garbage and vandalism control.

All dispersed sites that are maintained must have vault toilets and tighter management of sites. Use the LAC system.

Use chemical toilets in dispersed sites. (5)

Place vault toilets at only convenient locations to serve the most people

Need garbage cans and toilet facilities (2)

Campsites need table, fire ring, and a toilet

Campsites need vault toilets and fire rings (3)

Campfires should be permitted only in protected and developed campsites with fire rings - HM (2)

Fireplaces or fire rings should be arranged in a natural setting, not some iron-cement contraption that destroys the aesthetic beauty of the campsite

Design emergency escape routes from campsites rather than only providing one avenue of ingress/egress

Support the pack-in pack-out policy - HM (2)

Do not put a 25 unit campground on Loon Lake. Maintain existing dispersed sites on Loon until use requires more units, then build a 10-15 unit campground - AC/HM (3)

Develop campsite on Loon Lake

Check closely the west end of Loon Lake. Could be high water and if so, could pollute the Fisher River to the west. (2)

Sites along the KM road on south side of Middle Thompson should be made day use only.

Do not favor large developed sites off the Champion haul road on the south side of Middle and Lower Thompson Lakes.

Continue to allow RV camping off the ACM road in the Lower Thompson area - AC

Dispersed camp site by #9 squire on Upper Thompson is a good idea and if problems arise because of bridge maintenance it should be designated as a canoe/hike in site.

Limited camping on Upper Thompson, with no permanent or formal campsites

A couple canoe/hike in camp sites should be put on the south side of Upper Thompson Lake.

Camping reduction on Horseshoe lake is quite extensive.

Leave overnight campsites on Horseshoe Lake - HM (2)

There should be one or two canoe/hike in campsites located on Horseshoe lake.

Close the campsite at Turtle Cover on Crystal Lake - HM (5)

Maintain existing dispersed campsite on Crystal lake with road access - AC (2)

Expand campground at McGregor (3)

We agree with the removal of recreation sites on McGregor Lake north side from #8 west to the outlet and dam to McGregor Creek.

A couple more campsites should be located on McGregor lake and a site on Little McGregor Lake.

Expand Logan Campground (3)

Continue study of campground needs and possible expansion of Logan State Park.

CANOE TRAIL/HIKING TRAIL ISSUES

The Canoe trail is an excellent idea. (7)

Do not want canoe trail (5)

Have canoe trail for use after Loon nesting season

Do not want the Canoe trail through Crystal Lake (2)

Have canoe trail as far as Upper Thompson Lake, expanding beyond that would require an excessive amount of right of way acquisition and portage.

Portage trails should not be planned through existing private land. On conservation fund property it would be acceptable

The hiking/mountain bike trails to be created is an excellent idea. (4)

Like the hiking/mountain bike trails, but not at the expense of any road closures.

It would be nice if the hiking/mountain bike trail could connect to all of the lakes in the area and to dispersed camp sites.

BOATING ISSUES

Increase number and improve boat ramps (2)

Support eliminating some boat access and improving other access as outlined in the Draft Plan.

Urge a moritorium on boat dock or privately owned boat ramp construction.

Put day use boat launch on Crystal Lake - AC (2)

Improve boat launch at Upper Thompson by the bridge

Improve launch site at Loon Lake

Some of the lakes should be non-motorized

There should be no motorboat restrictions (4)

We feel boat motor restrictions should be implemented on Horseshoe.

Do not want motor boat restrictions on Horseshoe Lake

We feel boat motor restrictions should be implemented on all three sections of Upper Thompson Lake and the small lakes in the Chain of Lakes area

Support a 5 to 10 hp or no wake restriction on the upper lakes.

Allow full-throttle boating only on those larger lakes where dwellings have been established.

Do not restrict boating on lakes with large private ownership.

Recommend no wake area on all lakes within 50 foot of shoreline.

McGregor, Middle Thompson, Upper Thompson and Crystal should be maintained as water sports lakes with no boating restrictions (2)

There should be no motor boat restrictions on Crystal (3)

There should be no motor boat restrictions on Middle Thompson

There should be no motor boat restrictions on McGregor

Specify that waterskiing and wake boating will be allowed and that any watercraft restrictions will be strictly voluntary on Crystal, Lavon, Upper Thompson, Middle Thompson, Lower Thompson and McGregor

No motors on the small ponds and lakes under 10 acres in size. Electric trolling motors would be ok.

Small ponds and lakes under 10 acres should be canoe only lakes

No wake boating on 10-20 acres lakes such as Bootjack, Lavon, Rainbow and Leon.

Support no wake boating on the smaller lakes.Oppose water skiing on all but Middle and Lower Thompson and McGregor.

Oppose water skiing/jetskiing on Loon and Little Loon lakes.

Restrict boating on Loon Lake to no wake boating. Electric motors and trolling speeds ok.

Loon, Middle Upper, Lower Upper, Horseshoe as well as the various small pothole lakes should be managed as fishing lakes with limited or no motor boating.

GRAZING ISSUES

Grazing should continue in this area. (4)

Grazing allotments and leases should be stopped in the proposed area. (2)

There should not be any open cattle range that touches the lake or stream shores. (4)

Favor allowing limited grazing in the area - AC (2)

Grazer should be required to erect fences as part of his permit to keep stock.

Encourage working with local ranches to manage grazing by fencing heavily used recreation areas where there is a confli -AC/HM (2)

Montana State Law says that the property owner himself must fence his own land to keep out legally grazing cattle o other animals

Grazing and timber sale receipts from the park should be used to fund improvements/rehabilitation in the park.

LOGGING ISSUES

Do not consider further logging.

Continue to log (2)

Logging should still occur only if the water quality and riparian areas are not affected. It should be done in a way to help improve wildlife habitat or remove fire or recreation hazards.

Revenue production and timber growth for future logging should not be the driving factors for timber removal.

Open up some campsites by cutting trees

LAND ISSUES

Do not acquire any more land (3)

Acquire legal road and trail access to all proposed state ownership. This needs closely looked at and addressed at all the lakes - AC/HM (6)

Acquire legal access on private lands where appropriate

The State and/or Forest Service should try and acquire the waterfront property that is owned by Plum Creek. (2)

Urge a moritorium on building and sub-division of privately owned or leased lands.

Montana needs less privately owned properties surrounding our waterways.

Assemble a group of citizens to examine the Plum Creek Timber Company lands for possible acquisition to protect public values. No development conservation easements may be sufficient. Key PCTC lands to acquire are their ownership on Rainbow, Cad, Topless, Bootjack, and Cibid Lakes, and the marshy habitat they own on Upper Thompson Lake

Support evantual consideratioin of public ownership of any other corporate land which might become available

If it is not possible to acquire the Plum Creek property, try to set up an agreement with Plum Creek as to set up some kind of fee use system that is compatible with the system that will be used by the State.

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WILDLIFE ISSUES

The emphasis placed upon threatened and endangered species is too great. The area is not in any recovery plans, getting it into recovery plans will conflict with what the user public wants, and with commercial uses of adjacent land. (7)

Less emphasis should be put on the disturbance of wildlife (3)

Think it is very important that this area be managed for the migrating birds and endangered plant species.

A long term monitoring plan for wildlife should be implemented (2)

Oppose any concessions to wildlife on Crystal Lake

All wildlife species will be considered a risk to people and property, these risks must continue passing through the area quickly, or be helped by Montana Wardens

Where there is significant ownership other than Conservation Fund, object to protecting species not addressed by the Endangered Species Act

Approach with caution on posting areas for nesting, etc or someone will eliminate the birds.

Not in favor or marking or calling attention to where a nest is located = too many people would try to find the nest. The same applies for Osprey and eagles. (2)

Buoy loon nests (4)

Do what is needed to protect osprey and eagle nests.

Favor no-wake boating within a reasonable distance of eagle nesting sites. (3)

On lakes of less than 40 acres no wake boating be imposed for a specific period during the nesting season.

On lakes larger than 40 acres no wake boating should be required within 300 feet of eagle and loon nests for specific period.

On Horseshoe Lake if necessary to protect the bald eagles, restrict water skiing and no-wake boating prior to May 15 - AC/HM (3)

Do not restrict any use of Horseshoe Lake after May 15 because of Bald Eagle nesting.

Do not place restrictions on motor boating, fishing, RV use or camping near bald eagle nesting sites until a specific nest management plan has been developed for that nest. Development of the specific nest site plan must include public involvement - AC/HM (2)

Increase beaver and other fur-bearing animal usage.

Rehabilitate fish passage through all culverts, including Boiling Springs Creek and Davis Creek - AC/HM (5)

Would like to rehabilitate Horseshoe Lake, tailored as to not cause any undue stress on eagles.

Establish at least one catch and release trout lake or trophy trout lake. Banana Lake would be a good choice (2)

SPECIAL PROJECTS

No mention of the possible use of horses.

The plan should include provisions for possible horse use. Trail head facilities should be developed, trail cleaning a maintenance and trail rides for recreation.

An area should be designated for over night camping for horse users with trailers and campers.

The back country horsemen organization could donate time and labor in development.

Establish a non-maintained open use area for snowmobilers, ATV, motorcycles etc, if an appropriately sized area available.

Support the use of ATVs on existing roads - AC

The old Libby-Kalispell highway (Roosevelt Hwy) should be preserved in its present or original state if possible. It shoul have small sign on both ends noting it - AC/HM (4)

The Indian burial grounds should have a small sign to designating.

Save any historical site in the area

Oppose building trails and viewing blinds for watchable wildlife

WATER QUALITY ISSUE

Admit clearly the specious nature of current water quality test data, and do not allow assumed water quality degradation to drive the plan to the degree that it does now.

Present road and camp grounds do not cause much silting in lakes. No signs of deep cuts caused by erosion.

Depletion of oxygen and lessening of water quality may be caused by dry years. McGregor Lake is down nearly 2 1/2 feet.

Does oxygen levels change by sinking surface water during the winter? If so, this could help increase oxygen at greater depths. If this is so there would not be a continuous decrease in oxygen, but may cause it to change back and forth during the year

Water resources is the most important resource in this area. All efforts should be taken to reverse the eutrophic and to protect the other lakes from reaching these conditions. (3)

Before any more development the factors that are contributing to eutrophication of the lakes should be found and corrected.

Consider water quality testing over a significant period - AC/HM (7)

Regulate new sewage disposal systems for pollution.

Establish new and restrictive regulations for old septic systems.

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TECHNICAL COMMENTS

The plan is very hard to read and therefore hard to decipher. Many parts are vague and the intent and contents could be misunderstood. (2)

Support the concept of a level of use "trigger" to implement subsequent phases of the plan (2)

Use the conditional rather than the future tense throughout the document.

Document not specific enough (4)

Delete or make more precise language that unnecessarily spooks people who have seen what they believe are wild, exaggerated, arrogant, and irresponsible claims and actions of both government and volunteer activists who respect only their own views.

The document needs a good cleaning and polishing. There are inaccuracies and typo abound. (3)

The adjacent lands were not clearcut as implied in the draft. In fact, most stands are shelterwood harvested.

Delete all reference to land acquisition. (2)

Delete references to wilderness. This is not wilderness. (5)

Delete all references to grizzlies - HM (2)

Delete all references to wolves.

Delete the oblique references to endangered plant species.

Avoid the use of "Thompson Chain of Lakes Area" when Conservation Fund lands are really the subject.

No mention of slash burning, does it occur?

Insist that the plan editors stick to the current task: To obtain Montana acceptance of the Champion International and Conservation Fund offer.

No mention of Banana Lake could be found in the text.

No mention or indication of a campsite north of Hwy 2 at the Pleasant Valley Fisher River Bridge. (2)

Did not find data on the cumulative effects of the plan, i.e., impact on timber activity, impact on fire wood cutting, Christmas tree cutting, U.S. Highway 2, private property, taxes, property values, hunting, un-gated roads, potential forest fires and surrounding National Forest lands. (4)

Need to beef up section on grazing in relationship to water quality. (2)

It should be specified which lakes have the commercial developments on or near them.

Eliminate the paragraph which states "The watercraft management strategy which seems most appropriate is to require no wake boating on lakes that support active loon nests"

Please define exactly the time we will be restricted to use our boats due to loon nesting (2)

Cost projections should factor in inflation and vandalism

Throw out Objectives at end of document (3)

The Fisher River flows into the Kootenai and in to the Columbia, not Lake Pend d'Orielle (3)

McGregor Lake is 4 1/2 miles long, not 8

Pg 1, Paragraph 2 and 4, the current usage in National Forest lands. (2)

Page 2, Lakes are listed having small residential ownerships of less than 1 acre. Upper Thompson lake is not listed and should be included

Page 4, are these acres land acres or include water surface?

Page 5, Paragraph 2, should say Habitat not suitable to grizzly's(3)
Page 6, Paragraph 4, Bootjack and Lavon lakes aren't mentioned as having small residential ownerships

Page 6, unclear which are the five major owners

Page 15, a geological map would help to understand all this information

Page 23, oppose to requiring a sealed sanitary system for future residential development.

Page 25, 200,000 ft should read 20,000 ft

Page 34 paragraph 1, No bull trout stocked, probably mistook black bullheads for bulltrout

Page 34, paragraph 2, Northern pike were probably illegally introduced into Upper Thompson lake in the early '80's

Page 34, paragraph 3, fish were captured in an experimental "gill"net, not an experimental trawl net.

Page 35, M. Thompson and Crystal Lakes omitted from table

Page 35 tables based on the given species abbreviations, changes should be as follows, WF Mountain whitefish, BB black bullheads should replace WL bulltrout, also the number was 10 for bullheads, CS coarsescale sucker, PM peamouth or columbia River Chum, EB should be brook trout not Eastern.

Page 35, Chart. There are bass in Upper Thompson Lake

Page 41, eliminate the third paragraph

Page 41, eliminate the first sentence of the 4th paragraph

Page 46, under wildlife discussion, Leon Lake was omitted - AC

Page 46, under wildlife discussion, Leon Lake, Banana Lake and Little Loon Lake were omitted - HM

Page 58, McGregor lake, also mention the boat ramp at campground

Page 59, Middle Thompson, Also mention the boat ramp at campground

Five letter were not included in this summary. They consisted of technical data related to specific passages. The revisions from these letters will be included in the next draft. Copies of these letters are available upon request.

COMMENTS
THOMPSON CHAIN OF LAKES PUBLIC MEETINGS

EUREKA - December 10, 1992

- Weed control needs to be addressed
- Future funding needs to be addressed - possibly seek through Rural Economic Development Council
- Like road closures in plan Alternative 2

KALISPELL - December 14, 1992

- Data is best available - good report.
- Lakes are naturally close to eutrophic, and a small amount of pollution will affect them greatly
- Would like road closed behind lower upper and middle upper Thompson Lakes (Metcalf Ranch area)
- Need a group camping areas for 15 - 20 families
- Maintain group camping sites that are now being used.
- Do not base decisions by such low percentage of responses to survey.
- Good idea to establish a canoe trail.
- Do not want land sold into private commercial enterprise.
- Revise campsite structure in such a way that the new availability of sites is not reduced
- No campground on Crystal Lake. The lake is too small to handle an increase in use (water quality and lake traffic)
- Keep Horseshoe Lake campgrounds open with vehicle access
- Major development should be only on larger lakes or lakes with no private property
- Lakes Option 2
- Likes Road closure in Option 2
- Likes Fees
- Page 25 - not 200,000 board feet of lumber harvested (maybe 20,000?)

- Motor boats only on middle and lower thompson Lakes.

- There should be provisions for horse enthusiasts to use the resource for access to back country trails and for horse organizations to participate voluntarily in camp and trailhead development.

- Suggested phase actions:
  Phase I - 3 years - Toilets, installation, maintenance, pumping

  Phase II - 5 years - Road improvements, boat launching, add launches and improve others.

- Would the cost of administration and collection of fees be greater than receipts?

- Water Quality - no evidence reported of coliform bacteria

- Management plan should contain more specific reference to signing plan because of cost

LIBBY - December 15, 1992

- Need additional boat access on McGregor (why eliminate one?) Do not cut without improving one.

- Do not place unnecessary restrictions on eagle nesting site

- Have biological reasons for grazing restrictions

- Fees - Should be a range of development from free to something more than free depending on level of development

- Need time limits so some people won't occupy best sites for extended time

- Need toilet facilities away from water. Tear down old ones to prevent pollution

- Need boat ramp on Loon Lake - let county manage it

- Small motors, 10 HP or less on loon lake

- Need boat ramp at all large lakes including Horseshoe

- Leave it as it is

- Have an Environmental Impact Study done for this area so you will know the impact of the people, animals, etc.

- Do not want the no-wake regulation put on the lakes

- Vault toilets are expensive - Maybe check out having portable

toilets and have them put on a regular schedule for cleaning

- Dissolve the board - Advisory committee
- Let the county manage the Thompson Chain
- Leave access available to the people who live here
- Leave roads around horseshoe as is
- Leave roads alone on Leon Lake
- Chain of Lakes "Park" change to Recreation Area, Park connotate intense development
- The East Fisher does not flow into Pend d' Orielle Lake
- No mention of golden eagles
- Contact Libby Rod and Gun to see if club would be interested in adopting a park. Talk to the Libby Sportsmans Show to see if they would be interested in sponsoring an area.
- Need to plow some public access to McGregor Lake for winter ice fishing
- Why isn't Crystal lake included on the fish population chart on page 35.
- Leave cattle to graze the area to keep grasses down and prevent fire danger
- Need an appropriate cultural resource inventory done, both history and prehistoric
- Maintain access for winter use of the lakes
- Identify a place for 4x4 and snowmobilers back away from the lake to consolidate use

THOMPSON FALLS - December 17, 1992

- Likes road closures
- Hiking and biking trails good
- Likes boat in sites real well

SUMMARY OF WRITTEN COMMENTS ON SECOND DRAFT EA AND MANAGEMENT PLAN FOR THOMPSON CHAIN OF LAKES

GENERAL COMMENTS

Support Alternative #4 (6)

Support Alternative #2

Leave as is

FEES

Use donation box, do not charge fees

REGULATION

Stronger wording about enforcement needs to be incorporated. A cooperative enforcement plan with the Sheriff's Department needs to be implemented.

ADJACENT PROPERTY CONCERNS

Existing property rights should not be infringed upon

OPERATIONS

A new TCL Advisory Council should be formed with majority membership from members of the Thompson Chain of Lakes Homeowners Association.

Any rehabilitation and/or campsite development must be coordinated by FWP with the TCL Advisory Council

Cars and Trucks should be prohibited from access upon lakes in the winter to prevent possible contamination of lakes by submerged vehicles

ROAD AND CAMPING SITE ISSUES

Soften the first sentence on page One. Need to be able to close roads or campsites without lots of red tape. (2)

Enact plan as of 1991 when process started. Roads and camping sites started after that date should be eliminated

Some dispersed camping sites may need to be closed to protect water quality

BOATING ISSUES

The Department needs to be proactive about no-wake boating proposals

No boating restrictions on Horseshoe Lake

GRAZING ISSUES

Need more information on AUM's, size of allotments

LOGGING ISSUES

Timber management should continue, including hazard trees

Old growth timber should be protected.

WILDLIFE ISSUES

Elk and Moose use the area year around

Herons left rookery because bald eagle drove them out

Rehabilitate Horseshoe Lake, Topless Lake and Lost Lake.

WATER QUALITY ISSUES

Water quality must be maintained

No development or activity which would adversely affect water quality on south side of McGregor Lake should be authorized.

Water quality should be monitored quarterly

TECHNICAL COMMENTS

Missed a few campsites on Horseshoe and Topless Lakes

Need more data on economics of issues

CHAIN OF LAKES ADVISORY COUNCIL
Revised 5/10/93

NAME	ORGANIZATION	ADDRESS
Neil Bertlesen		515 Crystal Lake Rd., Libby, MT 59923
Jim Brousseau		39704 Hwy 2 S., Libby, MT 59923
Bob Cole	Flathead Land Trust	1417 Hwy 2 West, Kalispell, MT 59901
Don Collins	Wester MT Bassmasters	1014 Whitefish Stage, Kalispell, MT 59901
Jim Davidson		PO Box 1572, Libby, MT 59923
Ed Eggleston		892 Libby Cr. Rd., Libby, MT 59923
Dolores Fredrickson	Local Business/Happy's Inn	39704 Hwy 2 South, Libby, MT 59923
Larry Froberg	USFS, Canoe Gulch Ranger District	12557 Hwy 37, Libby, MT 59923
Leo Hargrave	Thompson River Grazing Coop.	Hargrave Charolois Ranch/St.Rt, Marion, MT 59925
Leland Hoeltzel	Chief, Fisher River Vol. Fire Dept.	185 Lakeview Rd., Libby, MT 59923
Gary Hull		2103 Foothill Rd., Kalispell, MT 59901
Warren Illi	Flathead Wildlife	PO Box 4, Kalispell, MT 59901
Mike Jostrom	Plum Creek Timber Inc.	PO Box 1957, Kalispell, MT 59903
Roland V. Kline	Chain of Lakes Homewoners Assoc.	46202 Hwy 2 South, Libby, MT 59923
Ray Kramer		1364 Foothill Rd., Kalispell, MT 59901
Eugene Kranitz	BASS (Bass Angler Sports Soc.)	553 Lenwood Lane, Kalispell, MT 59901
Loren Kujawa	Libby Rod and Gun Club	712 Wisconsin Ave., Libby, MT 59923
Dean Madison		781 ACM Rd. S., Libby, MT 59923
James Manley	Libby Dam Good Sams Club	Box 315, Libby, MT 59923
Mitch Richeal	Champion Timberlands	875 Hwy 2 South, Libby, MT 59923
Ne[illegible]an Sickle		204 Lakeshore Dr., Kalispell, MT 59901
Marty Watkins	MT Dept. of Fish, Wildlife and Park	490 N. Meridian Rd., Kalispell, MT 59901

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APPENDIX F: DECISION MEMO

ENVIRONMENTAL ASSESSMENT
DECISION NOTICE
FINDING OF NO SIGNIFICANT IMPACT

THOMPSON CHAIN OF LAKES
ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN

DESCRIPTION OF THE PROPOSED ACTION

The Montana Department of Fish, Wildlife and Parks will implement Alternative 4, the preferred alternative, of the Draft Environmental Assessment and Management Plan for Thompson Chain of Lakes. The subject lands include 3,917.83 acres which stretches for 20 miles along U.S. Highway 2 between Kalispell and Libby.

Thompson Chain of Lakes will be managed as a fishing access area for traditional dispersed recreation use, with management and development consistent with FWP's fishing access program. The focus will be on protecting the resource and providing public access for the purpose of boating and fishing. The Fish, Wildlife and Parks Commission may adopt special regulations for TCL as necessary to implement management goals.

FINDING OF NO SIGNIFICANT IMPACT (FONSI):

Based on the analysis in the Environmental Assessment (EA), I find Alternative 4, limited development in keeping with current recreation use, to be the preferred alternative. I have evaluated the EA and applicable laws, regulations, and policies and have determined that this action will have no significant effect on the human environment. Therefore, an environmental impact statement will not be prepared.

The final Environmental Assessment and Management Plan, and the FONSI may be viewed at or obtained from the Department of Fish, Wildlife and Parks, Region 1, Kalispell, Montana. Please direct requests and questions to:

Dan Vincent, Regional Supervisor
Fish, Wildlife and Parks
490 N. Meridian
Kalispell, MT 59901
(406) 752-5501

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APPENDIX G: LEASE AGREEMENT

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LEASE AGREEMENT

This lease agreement, made and entered into this 12th day of December, 1990 and between the STATE OF MONTANA, DEPARTMENT OF FISH, WILDLIFE AND PARKS, whose main address is 1420 East Sixth Avenue, Helena, Montana 59620, hereafter referred to as the "Lessee", and The Conservation Fund, a Maryland corporation, whose main address is Suite 1120, 1800 North Kent Street, Arlington, Virginia 22209, hereafter referred to as the "Lessor",

WHEREAS, the Lessor owns or controls property in the Thompson Lakes and McGregor Lake areas, in Flathead, Sanders and Lincoln, more particularly described in Exhibit "A" attached hereto and made a part hereof. This property will be referred to as Thompson Lakes State Park.

This lease is subject to those easements and rights of way in common with Champion International Corporation, its successors and assigns over the existing roads on Champion International Corporation's property described in Exhibit "B" and in Paragraph 11a.

WHEREAS, the Lessee has been designated the State outdoor recreation agency and it desires to work closely with the State's landowners to conserve scenic, historic, archaeologic, and scientific resources, and

WHEREAS, the Lessee believes it is desirable to acquire private lands for the above purposes, wildlife habitat, fishing access and to provide for their use and enjoyment by the public.

NOW, THEREFORE, in consideration of the mutual promises, terms, and provisions hereafter set forth, it is understood and agreed by the parties hereto as follows:

1) **PURPOSE**: This lease is entered into for the purpose conserving and providing public recreation resources in the McGregor and Thompson Lakes acres. The lease also confers upon the Lessee the right to enter upon the described property for the purpose of planning, developing and maintaining public park and recreation programs and facilities to be used by the public.

2) **PAYMENT**: That in consideration of the sum of Ten Dollars ($10.00) to be paid by the Lessee to the Lessor, the Lessor hereby leases to the Lessee the above described property.

3) **TERM OF LEASE**: This lease agreement shall have a term of Two (2) years from the date of its entry.

4) **INDEMNIFICATION**: The Lessee agrees to indemnify and hold the Lessor harmless against any claim of damage to person or property which arises out of use of the leased property by Lessee or the public, except for any

such damage caused by the negligence or willful misconduct of the Lessor. The Lessor, by entering into this lease agreement, releases the Lessee from any and all claims for damage to the leased property arising out of normal use of the property pursuant to this lease.

5) CANCELLATION: This lease agreement may be revoked upon 90 days written notice by either party upon the failure of either party to meet any of the provisions herein stated.

6) SUBLEASING & ASSIGNING: Lessee may sublease or assign the leased lands to any other person or entity only for livestock grazing. Payment shall be in services on the leased property to enhance public recreation or maintain the properties.

7) MODIFICATIONS: This document constitutes the sole and entire agreement between the parties. No statements, promises or inducements made by either party which are not contained in this agreement are valid or binding unless evidenced in writing and signed by both parties.

8) BINDING EFFECT: All terms, conditions and provisions of this lease shall be binding upon, inure to the

benefit of, and be enforceable by and upon the successors in interest of the Lessor.

9) COURT OF VENUE: Venue for any court action arising under this lease shall be in the First Judicial District in and for the County of Lewis and Clark, Montana and this lease shall be interpreted according to the laws of the State of Montana.

10) DEPARTMENT LIAISON: The Department designates Dan Vincent, Kalispell Regional Supervisor or his designee as liaison for Lessor under this lease. Lessor will make all official contacts with the Department through the liaison.

11) SPECIAL CONDITIONS:

a) Access: In order to afford Lessee, its permitees, sublessees, agents, employees, successors and assigns and the general public access to the leased property. Lessee's and Champion's use of the said easements and rights of way shall be exercised in common with the rights of the other party, their respective successors and assigns and shall not operate to exclude the other from the use and enjoyment of the rights herein granted. At all times Champion International Corporation, its successors and assigns shall possess

the right to manage the Exhibit "B" roads in a manner consistent with past management practices.

IN WITNESS WHEREOF, the parties have executed this lease on the day and year first above written.

K. Ku Hoagland Hanes VP
President, Conservation Fund

Director, Montana Department of Fish, Wildlife and Parks

Asst Richard L Erdmann
Secretary

Ernest T. Galt
Chairman, Montana Fish and Game Commission

52-1388917
Lessor's Social Security or Taxpayer Identification Number

Eileen E. Shore
Department Attorney Approval

ChainLks.wDS

CHAIN OF LAKES

EXHIBIT "A"

FLATHEAD COUNTY:

Township 26 North, Range 25 West, P.M.M.

(Little McGregor Lake)

Section 4: Lot 3 (40.04 acres) and SE¼NW¼ (40.00 acres); containing a total of 80.04 acres, more or less as recorded in the GLO plat records.

(McGregor Lake - North Point)

Section 5: Lot 1 (40.01 acres), Lot 2 (39.99 acres), Lot 3 (39.97 acres), Lot 4 (39.96 acres), Lot 5 (34.50 acres), Lot 6 (39.05 acres), Lot 7 (29.35 acres) and Lot 8 (37.52 acres); EXCEPTING that portion of land as described in Certificate of Survey No. 9802, and being a portion of Lots 7 & 8, containing 23.60 acres as filed with the Flathead County Clerk and Recorders Office. Said lands contain a total of 276.75 acres, more or less, as recorded in the GLO records and Certificate of Survey No. 9802.

(No Lake - North of McGregor Lake)

Section 6: Lot 2 (39.92 acres) and Lot 3 (39.91 acres); containing a total of 79.83 acres, more or less as recorded in the GLO records.

(McGregor Lake - East End)

Section 9: Lot 1 (29.47 acres), Lot 2 (17.86 acres), Lot 3 (46.63 acres), Lot 4 (16.53 acres), N½NE¼ (80.00 acres) and SE¼NE¼ (40.00 acres); ~~INCLUDING~~ excluding that portion of land located in Lots 1, 2, 3 & 4 as described in Certificate of Survey No. 9378, containing 80.06 acres, as filed with the Flathead County Clerk and Recorder's Office. Said lands contain a total of 230.49 ~~250.49~~ acres more or less as recorded in the GLO records and Certificate of Survey No. 9378.

Township 26 North, Range 26 West, P.M.M.

(McGregor Lake - West End)

Section 1: Lot 1 (39.99 acres), Lot 2 (39.97 acres), Lot 3 (39.95 acres), Lot 4 (39.93 acres), Lot 5 (48.29 acres), Lot 6 (14.24 acres), Lot 7 (31.66 acres), Lot 8 (38.77 acres), Lot 9 (2.22 acres) [north of U.S. Highway 2, Book 560, page 74], S½NW¼ (80.00 acres) and SW¼NE¼ (40.00 acres). Said lands contain a total of 415.02 acres more or less as recorded in the GLO records and in Deeds Book 560, page 74.

SANDERS COUNTY:

Township 26 North, Range 27 West, P.M.M.

(Lower Thompson Lake & Thompson River)

Section 13: Lot 1 (40.04 acres), Lot 2 (20.43 acres), Lot 3 (47.19 acres), SW¼NW¼ (40.00 acres), NE¼NE¼ (40.03 acres) and SW¼NE¼ (40.09 acres) as shown on Certificate of Survey No. 1020 as filed with the Sanders County Clerk and Recorder's Office and as shown in the GLO records. Said lands contain a total of 227.78 acres more or less.

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LINCOLN COUNTY:

Township 26 North, Range 27 West, P.M.M.

(Middle Thompson Lake - Logan SRS)

Section 3: Lot 5 (33.64 acres), Lot 6 (5.17 acres) and Lot 7 (35.47 acres) as shown in the GLO records and on Certificate of Survey No. 1756 as filed with the Lincoln County Clerk and Recorder's Office; EXCEPTING that portion of land as described in Certificate of Survey No. 1414, containing 1.42 acres and also excepting that portion of land described in Document Exhibit No. 1365 which lies partly in Section 3, containing 14.21 acres (calculated) as filed with the Lincoln County Clerk and Recorder's Office. Said lands contain a total of 58.65 acres, more or less.

(Middle Thompson Lake)

Section 4: Lot 1 (39.83 acres), Lot 2 (39.80 acres), Lot 3 (40.34 acres), Lot 4 (26.64 acres), Lot 6 (24.44 acres) and Lot 7 (44.86 acres) as recorded in the GLO records; EXCEPTING that portion of land as described in Certificate of Survey No. 1155, containing 4.03 acres and also excepting that portion of land as described in Book 78, page 310, containing 7.65 acres, as filed with the Lincoln County Clerk and Recorder's Office. Said lands contain a total of 204.23 acres, more or less.

(Upper Thompson Lake)

Section 5: Lot 1 (12.78 acres), Lot 2 (29.83 acres), Lot 3 (39.02 acres), Lot 5 (42.02 acres) and SW¼NE¼ (40.07 acres) as shown on the Certificate of Survey 1757 as filed with the Lincoln County Clerk and Recorder's Office. Said lands contain a total of 163.72 acres, more or less.

(Middle Thompson Lake - Westside near Bowers Peak)

Section 9: Lot 1 (27.57 acres), Lot 2 (48.12 acres) and SW¼NE¼ (41.02 acres) as shown on Certificate of Survey No. 1758 as filed with the Lincoln County Clerk and Recorder's Office. Said lands contain a total of 116.71 acres, more or less.

(Lower Thompson Lake - FAA)

Section 11: Lot 1 (16.17 acres) Lot 2 (48.13 acres), Lot 3 (19.7 acres), Lot 4 (20.27 acres), Lot 5 (25.83 acres), Lot 6 (35.28 acres), Lot 7 (17.73 acres), Lot 8 (2.43 acres), NE¼ (160.00 acres), N½NW¼ (80.00 acres) and SW¼SW¼ (40.00 acres); EXCEPTING that portion of land as described in Certificate of Survey No. 1670 containing 35.49 acres, as filed with the Lincoln County Clerk and Recorder's Office. Said lands contain a total of 430.05 acres, more or less.

Township 27 North, Range 27 West, P.M.M.

(Crystal Lake - Eastside)

Section 19: A portion of the SW¼ as shown on Certificate of Survey No. 1759; containing 75.42 acres, more or less, as filed with the Lincoln County Clerk and Recorder.

(No Name Lake - North of Upper Thompson Lake)

Section 29: SW¼; containing 162.07 acres, more or less, as shown on Certificate of Survey No. 1764 and filed with the Lincoln County Clerk and Recorder's Office.

(Upper Thompson Lake)

Section 31: Lot 1 (14.93), Lot 2 (41.85 acres), Lot 3 (26.64 acres), Lot 4 (36.41 acres), Lot 6 (34.51 acres) and NE¼SE¼ (40.60 acres) as shown on Certificate of Survey No. 1765; containing a total of 194.94 acres, more or less, and filed with the Lincoln County Clerk and Recorder.

(Upper & Middle Thompson Lake)

Section 33: SW¼SW¼; containing 40.31 acres, more or less and as shown on Certificate of Survey No. 1766, as filed with the Lincoln County Clerk and Recorder.

Township 27 North, Range 28 West, P.M.M.

(Loon & Little Loon Lakes)

Section 22: Lot 4 (18.48 acres), Lot 5 (21.01 acres), Lot 6 (27.94 acres), Lot 7 (39.57 acres), Lot 8 (5.68 acres), Lot 9 (1.38 acres), Lot 10 (51.41 acres), W½NW¼ (80.00 acres) and S½SE¼ (80.00 acres). Said lands contain a total of 325.47 acres, more or less, as recorded in the GLO records.

(Horseshoe, Leon & etc. Lakes)

Section 23: All; containing 473.21 acres, more or less, as recorded in the GLO records.

(Horseshoe, Lilypad & etc. Lakes)

Section 24: Lot 3 (40.12 acres), Lot 4 (25.36 acres) and S½NW¼NW¼ (19.91 acres) as shown on Certificate of Survey No. 1760, as filed with the Lincoln County Clerk and Recorder; containing a total of 85.39 acres, more or less.

(Crystal Lake - Westside)

Section 25: Lot 1 (31.85 acres), Lot 2 (43.81 acres), Lot 3 (47.23 acres) and NW¼SE¼ (40.00 acres) as shown in the GLO records and as shown on Certificate of Survey No. 1761, as filed with the Lincoln County Clerk and Recorder's Office; containing a total of 162.89 acres, more or less.

(Horseshoe & Leon Lake)

Section 26: NW¼NW¼ as shown on Certificate of Survey No. 1762, as filed with the Lincoln County Clerk and Recorder; containing 39.24 acres, more or less.

(Loon & Little Loon Lake)

Section 27: Lot 1 (35.48 acres), NE¼NW¼ (40.00 acres) and N½NE¼ (80.20 acres) as shown on Certificate of Survey No. 1763, filed with the Lincoln County Clerk and Recorder's Office, and the GLO records; containing a total of 155.68 acres, more or less.

All of the afore listed properties are subject to all purported reservations, exceptions, rights, terms and conditions, if any remain, as set forth in a recorded conveyance dated June 26, 1972, from the Anaconda Company to Champion International Corporation, recorded June 26, 1972, in Volume 88, page 509, records of Sanders County, Montana; in Book 18, page 34, records of Lincoln County; and, in Volume 538, page 582, records of Flathead County.

The above listed properties are also subject to those certain reservations for easements and rights of way for roads over, upon and across the Property as set forth in those certain deeds dated June 6, 1990 from Champion International Corporation to The Conservation Fund which were recorded June 6, 1990, in Flathead County under Reception No. 9015714440 in Sanders County under Volume 112, page 690, and in Lincoln County under Book 156, page 780.

And further subject to all reservations and restrictions contained in United States patents and all easements and rights-of-way of record or actually located on the ground.

CHAIN OF LAKES

EXHIBIT "B"- Access Rights of Way

SANDERS COUNTY:

Township 26 North, Range 27 West, P.M.M.

(To Lower Thompson Lake & Thompson River)
Section 13: NE¼SW¼ and S½SE¼

LINCOLN COUNTY:

Township 27 North, Range 27 West, P.M.M.

(To Upper Thompson Lake)
Section 31: S½NW¼ and SW¼NE¼

Township 27 North, Range 28 West, P.M.M.

(To Crystal Lake - Westside)
Section 25: SE¼SE¼

REFERENCES

BIBLIOGRAPHY/SOURCES/REFERENCES MATERIALS:

All data pertaining to lake and land dimensions, land acquisition and history of the area and land donations was provided by the Montana Department of Fish, Wildlife and Parks (MDFWP). The Advisory Committee prepared a preliminary draft Environmental Impact Statement and conducted a poll to determine public perceptions and desires. These documents have been used in preparation of this report. In addition, natural resource data was gleaned from appropriate USGS 7½' topographic maps of the area and from other maps supplied by MDFWP. Aerial photographs of the Thompson Chain of Lakes area were provided by the U. S. Forest Service. Data on stand management, timber harvest, trees present and trees harvested were generously provided by Champion International; some stand interpretation was done by the U. S. Forest Service, Libby Montana.

Much data on the Thompson Chain of Lakes area was acquired by the consultants and is new in this report. This includes some information on bedrock structure, water quality, vegetation, wildlife and human use.

Formal publications used in preparation of this document are listed below by general subject.

SOILS AND GEOLOGY:

Johns, Willis M., 1960. Geologic Investigations in the Kootenai-Flathead area, northwest Montana. Part 2: Southeastern Lincoln County. State of Montana, Bureau of Mines and Geology, Bulletin #17. 552 p.

Montana Bureau of Mines and Geology., 1981. Geothermal Resources of Montana.

Soil Conservation Service, 1992. Soil Survey of Thompson Chain of Lakes Area. Preliminary, advance copy.

Stickney, M. C. and Mervin Bartholomew., 1983. Preliminary Map of Quaternary Faults in Western Montana. Montana Bureau of Mines and Geology.

PLANTS:

Mumma, 1991. Threatened, endangered plant and animal species, Kootenai National Forest.

Lincoln County, Montana. Noxious weed list and control guidelines.

ECONOMICS:

University of Montana, Institute for Tourism and Recreation Research, April 1992. A profile of visitors to Montana: Highway 2, west.

State of Montana, 1988. Montana Statewide Comprehensive Outdoor Recreation Plan, SCORP, page 42.

Kalispell Chamber of Commerce, 1992. Community Profile, 1993.

BIBLIOGRAPHY FOR WILDLIFE SECTION:

Altman, G. 1992. Biological evaluation abstract. Unpublished report, Canoe Gulch R. D., U. S. Forest Service. 32 pages.

Bergeron, D., C. Jones, D. L. Genter and D. Sullivan. 1992. P. D. Skaar's Montana Bird Distribution, Fourth Edition. Special Publication No. 2. Montana Natural Heritage Program, Helena. 116 pages.

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LIST OF CONTACTS:

Gary Altman, USFS Wildlife Biologist (406) 293-7773, Libby, Montana.

Margaret Beer, Montana Natural Heritage Program (406) 444-3000, Helena, Montana.

Jerry Brown, MDFWP Wildlife Biologist (406 293-7905, Libby, Montana.

James Cross, MDFWP Regional Wildlife Manager (406) 752-5501, Kalispell, Montana.

Joe Jontaine, USFWS Threatened and Endangered Species Specialist (406) 449-5225, Helena, Montana.

Dennis Flath, MDFWP Nongame Biologist (406) 994-6354, Bozeman, Montana.

Lynn Kelly, MDFWP Loon Research (406) 883-5797, Polson, Montana.

Ruebin Mathias, KNF/Cultural Liaison to Salish/Kootenai Tribe.

Mitch Richeal, Champion International Forester (406) 293-4141, Libby, Montana.

Don Skaar, MDFWP, Fisheries Biologist (406) 293-4161, Libby, Montana.

Marjorie Swanson, USFS/MDFWP Biology Technician, (406) 293-5330, Libby, Montana.

Margy Todd, Lincoln County Economic Development Coordinator, Libby, Montana.

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PERSONS CONSULTED:

Margaret Beer, Montana National Heritage Data Base, Helena, Montana.

Joan Bird, Montana National Heritage Data Base, Helena, Montana.

Michael Conners, Headquarters Flathead National Forest.

Robert W. Dinkley, Planner, Glacier National Park.

Bonnie Ellis, Flathead Lake Biological Station, University of Montana, Yellow Bay, Polson, Montana.

Al Elser, Deputy Director of Department of Fish, Wildlife and Parks, Helena, Montana.

Jed Fisher, Head Central Officer, Flathead County, Kalispell, Montana.

Larry Froberg, Ranger, Fisher Ranger District, Kootenai National Forest, Libby, Montana.

Dick Harlow, Recreation Specialist, Canoe Gulch, Fisher river Ranger District, Kootenai National Forest, Libby, Montana.

Tucker Hill, Champion International Corporation, Milltown, Montana.

Warren Illi, Headquarters Flathead National Forest.

Don Hyppa, Special Assistant to Director of Department of Fish, Wildlife and Parks, Helena.

Mike Jostrom, Plum Creek Timber Company, Kalispell, Montana.

Lew Kuennen, Headquarters Kootenai National Forest, Libby, Montana.

Dave Lange, Natural Resources Specialist, Headquarters Glacier National Park, West Glacier, Montana.

Dick Meyer, Design and Construction, Department of Fish, Wildlife and Parks, Helena, Montana.

Richard C. Montgomery, RPS Water Program Coordinator, EPA (ret.), Big Fork, Montana.

Harvey Nyberg, Wildlife Biologist, Flathead National Forest and Department of Fish, Wildlife and Parks, Kalispell, Montana.

Dr. Jeannette Oliver, Botanist, Flathead Valley Community College, Kalispell, Montana.

Arnie Olsen, Chief of Plans, Department of Fish, Wildlife and Parks, Helena.

John Peterson, Director of Environmental Health and Sanitation, Lincoln County, Libby, Montana.

Ken Peterson, Planning Director, Lincoln County, Libby, Montana.

Joe Russell, Flathead County Water Quality Office, Kalispell, Montana.

Steve Shelly, U. S. Forest Service and National Heritage Program, Missoula, Montana.

Calvin Sibley, USCS Soil Survey, Plains, Montana.

Richard Stearns, Headquarters Kootenai National Forestry, Libby, Montana.

Peter Stickney, Botanist, National Forest Research Service Laboratory, Missoula, Montana.

Jeffrey Tiberi, (documents), Department of Fish, Wildlife and Parks, Helena, Montana.

Rebecca Timmons, Archaeologist, Headquarters Kootenai National Forest, Libby, Montana.

Art Vail, Plum Creek Timber Company, Kalispell, Montana.

Jim Vashro, Fisheries Biologist, Department of Fish, Wildlife and Parks, Kalispell, Montana.

Tom Weber, U. S. State Soil Survey, Plains, Montana.

Bob Wilson, Head Central Officer, Lincoln County, Libby, Montana.

Wayne Worthington, Kalispell, Montana.

PREPARERS

PLANNING TEAM

Marty Watkins, Team Captain, Park Operations Supervisor
Dave Conklin, Region One Park Manager
James Cross, Region One Wildlife Manager
Jim Vashro, Region One Fisheries Manager
Dana Dolson, Sociologist

WORKING GROUP

Dan Vincent, Region One Supervisor
Warren Illi, Flathead Wildlife
James E. Davidson, Chain of Lakes Homeowners
Neil D. VanSickle, Chain of Lakes Advisory Council
Lawrence A. Froberg, Kootenai National Forest
Bruce Vincent, Communities for a Greater Northwest

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CONSULTANTS

Gary Hathaway, Project Manager
Bruce Boody, RMP Project Leader
Dr. Ellen Bishop, EIS Coordinator
Al Issacson, Hydrology/Fisheries
Holly Akenson, Wildlife
John Lipscomb, Engineering
Kyle Hemly, Landscape Architect/CAD/Trails Spec.

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Communities for a Great Northwest

VALLEY BANK
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BOX 48
KALISPELL, MONTANA 59903-0048

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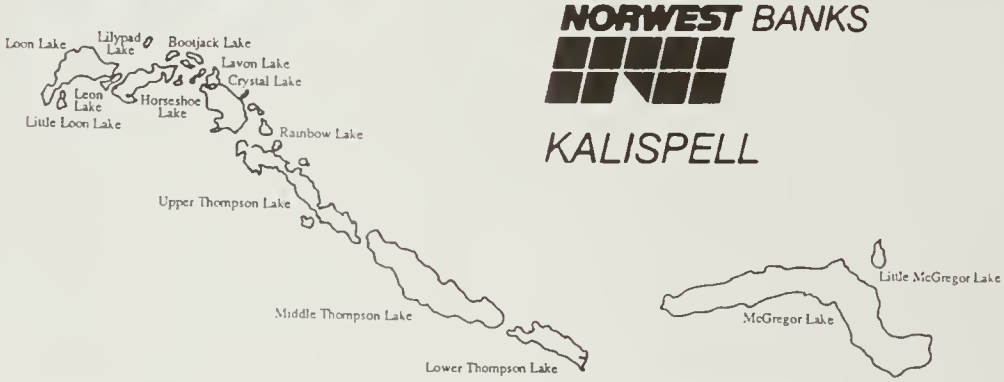
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